Skilled Trades Ontario | Métiers spécialisés Ontario

Apprenticeship
Training Standard
Logbook

Machine Tool Builder and Integrator

430M

2002

Apprenticeship Training Standard

The Apprenticeship Training Standard or herein after referred to as “Logbook” is a document issued to Apprentices who sign a Registered Training Agreement in the Province of Ontario as an official record of training. It is to be used by the Apprentice and Sponsor/trainer to guide the process of skills development in a particular trade.

Training As An Apprentice

- ✓ Ensure you, your sponsor, and your witness sign a Training Agreement with the Ministry of Labour, Immigration, Training and Skills Development. Once it is registered, you will receive a copy of the registered Training Agreement for your records.
- ✓ Notify the local Service Delivery Office **immediately** if any changes to contact information or training agreement, especially if you change sponsors.
- ✓ Review the Logbook regularly with your trainer and sponsor to discuss your progress, ask questions, seek feedback and have the trainer **sign-off on competencies**
- ✓ 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.

Completing Your Logbook

- ✓ **Complete the Sponsor Record Form –** A form must be completed for each Sponsor/Trainer used during your apprenticeship.

- ✓ **Confirm Skill Sign-off is Complete**
  - **You and your trainer** sign-off each required skill to confirm that you have demonstrated competency in that skill.
  - Shaded boxes in your Logbook 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.

- ✓ **Confirm Skill Set Sign-off is Complete**
  - After you and your trainer have signed-off all the required skills in a skill set, your sponsor signs the signature box on the form in **Appendix C – *“Skill Set Completion for Sponsors”*** to confirm your completion of all competencies within each skill set.

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**.**

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Apprentice Name: _____

Address: _____

_____

Phone Number: _____

Email Address: _____

Trade: _____

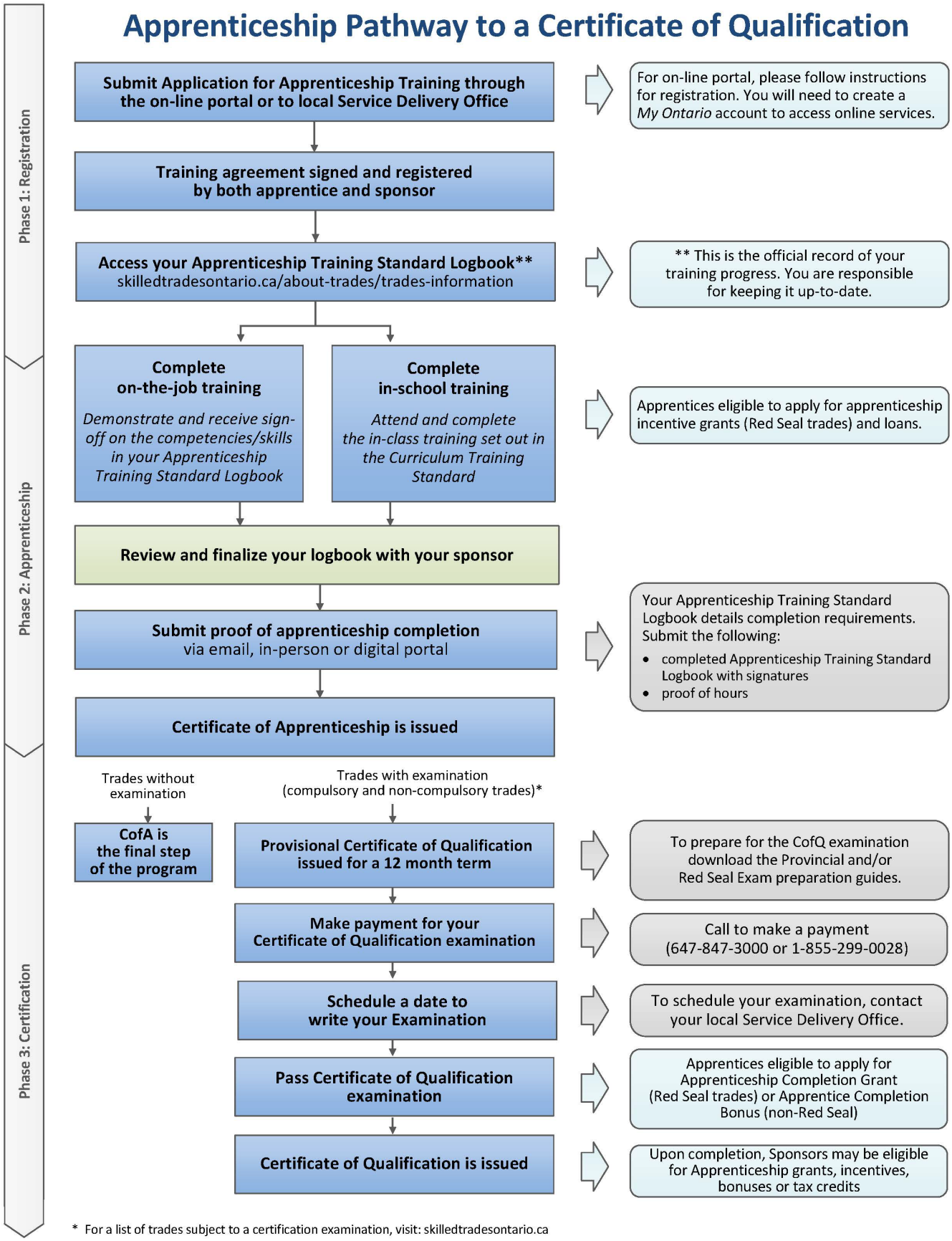
Training Agreement # (for Compulsory and Non-Compulsory trades):

STO Account No. (for Compulsory trades only):

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 Logbook or about your Apprenticeship program, contact your local Service Delivery Office (see Appendix D in this book) or the Employment Ontario hotline at: 1-800-387-5656.

Apprenticeship Pathway to a Certificate of Qualification



* For a list of trades subject to a certification examination, visit: skilledtradesontario.ca

Draft version: 2022-03-16

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Please Note: This Standard has been revised to reflect the visual identity of Skilled Trades Ontario (STO) which replaced the Ontario College of Trades on January 1, 2022. The content of this Standard may refer to the former organization; however, all trade specific information or content remains relevant and accurate based on the original date of publishing.

Please refer to STO's website: skilledtradesontario.ca for the most accurate and up to date information. For information about BOSTA and its regulations, please visit *Building Opportunities in the Skilled Trades Act, 2021* (BOSTA).

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

Maintained with transfer to Skilled Trades Ontario 2002 (V100)

Foreword: Purpose, Terms and Conditions of the registered Training Agreement

Purpose:

- Prior to starting official apprenticeship activities, the apprentice, sponsor and a witness are required to sign a Training Agreement.
- The Training Agreement that you have signed is an important legal document that outlines your responsibilities as an apprentice and the responsibilities of your sponsor.
- Once registered, this training agreement (or contract) marks the start of your formal agreement between the apprentice, the sponsor and the Ministry.
- For compulsory trades, the apprenticeship registration document must be accessible when working.

The Apprentice agrees:

- **To inform the local Service Delivery Office of any change to your 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 Logbook for the Trade which is part of the apprenticeship program established by Skilled Trades Ontario for the trade;
- To obtain written verification from the Sponsor and the Trainer(s) that the requirements in the Logbook for the trade have been met.
- When you receive an "Offer of Classroom Training", confirm your attendance by following the instructions in the offer. Failure to do so may result in losing your opportunity to attend school which delays the completion of your apprenticeship.

The Sponsor agrees:

- To ensure that the Apprentice is provided with the training required as part of the apprenticeship program established by Skilled Trades Ontario for this trade;
- 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.
- Release your apprentice from work to attend in-school training without penalty to the apprentice.
- To maintain the journeyperson/apprentice ratio for your trade, if applicable.
- To monitor their apprentice(s) progress
- To ensure that the Trainer(s) verifies, in writing, when each skill identified in the Logbook for the trade has been successfully completed by the Apprentice;
- To contact the Ministry should any changes in your capacity to train, your contact information, or your apprentice's status in the program change.

Trade Specific Resources and Links

Trade Specific Resource	Link
Red Seal Program	red-seal.ca
Apprenticeship in Ontario	ontario.ca/page/apprenticeship-ontario
Employment Ontario	employmentontario.ca
Service Canada	servicecanada.gc.ca
Building Opportunities in the Skilled Trades Act, 2021	Building Opportunities in the Skilled Trades Act, 2021, S.O. 2021, c. 28 - Bill 288 (ontario.ca)
Ministry of Labour, Immigration, Training and Skills Development	Ministry of Labour, Immigration, Training and Skills Development | ontario.ca
Exam Preparation Guide	Exam Resources – Skilled Trades Ontario
Skills Zone (Ontario Skills Passport)	http://www.skillszone.ca/

**Please note, all website addresses are current at time of printing*

Methodology-Standard Development

A standard is developed with a broad group of trade representatives who form the initial working group. This includes subject matter experts/ tradespeople/ instructors and employers from a cross section of the sector/industry, with varying years of work experience in the field. The working group reviews, develops and recommends revision to the content of the standard. Their role also involves harmonizing and updating other supporting content for the product.

An essential part of the standard development is the validation process. This is the opportunity to have a broader representation of the sector provide feedback on the content of draft standard. This process is conducted in various ways and may include sending out a survey or the draft document (or both) directly to the sector. The comments received are reviewed by the working group and revisions are made as required based on a consensus model.

Introduction to the Logbook

This “on-the job” Logbook is the training standard for Machine Tool Builder and Integrator 430M and was developed by Skilled Trades Ontario in consultation with representatives from industry. It identifies all the skills associated with and required to learn the trade.

The Logbook is divided into skill sets, which are further divided into skills. These skill sets and skills are written in statements that describe what the Apprentice must perform and to what standard, in order to be considered competent in that skill.

The successful performance of these skills is tracked in the Logbook. Once achieved, this skills’ sign-off, along with the completion of in-school program requirements or equivalent, is how the apprenticeship program is completed and apprentices receive a Certificate of Apprenticeship.

The Sponsor/trainer and Apprentice are required to sign-off and date each skill after the Apprentice has demonstrated proficiency in these skills. However, if a skill is shaded, it is optional and does not need to be signed-off, though it has been defined as a part of the scope of practice for the trade.

All practices described in this standard must be performed by the apprentice according to the specific criteria identified. In general, the standard of performance for this trade is to be performed according to all applicable jurisdictional codes and standards and all health and safety standards must be respected and observed.

All skills within the Apprenticeship Training Standard are to be performed, as applicable, according to and in compliance with the following:

- Occupational Health and Safety Legislation and Regulations;
- Other applicable legislation, regulation, codes and standards;
- Industry best practices;
- Company policies and procedures.

The information presented in this standard is, to the best of our knowledge, current at time of printing and is intended for general application. Please refer to the Skilled Trades Ontario website for the most accurate and up-to-date information: skilledtradesontario.ca

Roles and Responsibilities

Under the *Building Opportunities in the Skilled Trades Act, 2021* (BOSTA)

Skilled Trades Ontario (STO) is responsible for:

- Establishing and maintaining qualifications;
- Establishing Apprenticeship Programs and other training programs including training Standards, curriculum standards and certifying examinations;
- Issuing certificates for the purposes of this Act such as Certificates of Qualification;
- Maintaining a Public Registry for compulsory trades skilledtradesontario.ca/public-register/;
- Determining whether the experience and qualifications obtained by applicants for a certificate of qualification who do not complete an apprenticeship are equivalent to those received through completing an apprenticeship (Trade Equivalency Assessments)
- Promoting the skilled trades and conducting research.
- Conducting research and evaluate whether a trade should be prescribed as a trade for the purposes of this Act and to make recommendations on these matters to the Minister.

Ministry of Labour, Immigration, Training and Skills Development (MLITSD) is responsible for:

- Classifying trades as compulsory trades;
- Prescribing scopes of practice for trades;
- Approving which persons may provide in-class training for apprenticeship programs (TDAs);
- Registering Training Agreements;
- Providing those who successfully complete an apprenticeship program with a certificate of apprenticeship (CofA);
- Administering examinations, including certifying examinations;
- Promoting the skilled trades and conducting research;
- Exercising such other powers and perform such other duties and functions as are provided for in this Act or the regulations.

For any matter related to your registered Training Agreement or completing your apprenticeship, you must contact your local Service Delivery Office.

Roles and Responsibilities of the Apprentice

An Apprentice is an individual who has entered into a registered Training Agreement (refer to Foreword: *"Purpose, Terms and Conditions of TA" page 1)* with a Sponsor to receive training in a trade as part of an apprenticeship program established by Skilled Trades Ontario. As an Apprentice, you have certain roles and responsibilities to follow throughout your apprenticeship training:

1. As an Apprentice, you signed the Training Agreement and have entered into a contract with the Ministry of Labour, Immigration, Training and Skills Development and your Sponsor.
2. If you are registered as an Apprentice in a compulsory trade, your name will automatically appear in the Skilled Trades Ontario Public Register.
3. You are responsible for informing the staff at your local Service Delivery 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
4. As an Apprentice, you are responsible for completing skills or skill sets in this Logbook (as detailed in the *"Eligibility for Apprenticeship Program Completion"* section of this document) and ensuring that they are dated and signed by both you and your Trainer.
5. Once you have demonstrated competency in all the mandatory skills and received a sign off on each skill by your sponsor/trainer, you must have the Skill Set Completion Form completed and signed by your current Sponsor.
6. Submit your Logbook to your local Service Delivery Office.
7. Present your Apprentice Completion Form (Please refer to Appendix B), along with your authorized Logbook to your local Service Delivery Office.

Roles and Responsibilities of Sponsors and Trainers

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. Some sponsors may also act as the 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 registered with Skilled Trades Ontario.

In non-compulsory trades, a Trainer is an individual who holds one of the following:

- A Certificate of Qualification;
- 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) and has the skills outlined in the Logbook.

Competency means being able to perform to the required standard (please refer to *"Introduction to the Logbook").* Trainers/Sponsors and Apprentices are required to sign-off and date the skills in the Logbook following each successful acquisition. The Logbook forms a record of this achievement.

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.

Health and 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, supervisors, workers, apprentices and the public to achieve the goal of making Ontario's workplaces safe and healthy.

The Occupational Health and Safety Act (OHSA) provides us with the legal framework and the tools to do this. It sets out the rights and duties of all parties in the workplace, placing ultimate responsibility on the employer for the health and safety of workers (in this case apprentices) by ensuring procedures, controls, and training are established for dealing with workplace hazards. Therefore, it is imperative that all parties become aware of circumstances that may lead to injury, illness or harm. Safe learning experiences and environments can be created by controlling the variables and behaviours that may contribute to or cause an accident injury or illness.

A sponsor who is not the employer is reminded that the employer has legal responsibilities respecting health and safety over the apprentice who is their worker. The sponsor should encourage safe work habits and adherence to the employer’s occupational health and safety requirements for the workplace.

It is generally recognized that a positive attitude about safety in partnership with health and safety competency contributes to an accident-free environment. Everyone will benefit as a result of a healthy attitude towards the prevention of accidents.

Workers and apprentices can be exposed to a multitude of hazards and, therefore, should be familiar with the Occupational Health and Safety Act and regulations.

The Internal Responsibility System:

One of the primary purposes of the Occupational Health and Safety Act (OHSA) is to facilitate a strong Internal Responsibility System (IRS) in the workplace. To this end, the OHSA lays out the duties of employers, supervisors, workers, apprentices, constructors and workplace owners.

Workplace parties’ compliance with their respective statutory duties is essential to the establishment of a strong IRS in the workplace.

Simply put, the IRS means that everyone in the workplace has a role to play in keeping workplaces safe and healthy. Workers and apprentices in the workplace who see a health and safety problem such as a hazard or contravention of the OHSA in the workplace have a statutory duty to report the situation to the employer or a supervisor. Employers and supervisors are, in turn, required to address those situations and acquaint workers with any hazard in the work that they do.

The IRS helps support a safe and healthy workplace. In addition to the workplace parties' compliance with their legal duties, the IRS is further supported by well-defined health and safety policies and programs, including the design, control, monitoring and supervision of the work being performed.

Roles and Responsibilities under the Occupational Health and Safety Act

Employer's Responsibilities include but are not limited to the following:

- Instruct, inform and supervise workers and apprentices to protect their health and safety.
- Appoint competent persons as supervisors.
- Inform a worker, apprentice, or a person in authority, about any hazard in the workplace and train them in the handling, storage, use, disposal and transport of any equipment, substances, tools, material, etc.
- Take every precaution reasonable in the circumstances for the protection of a worker/apprentice.
- In workplaces in which more than five workers are regularly employed, prepare and post a written occupational health and safety policy and set up and maintain a program to implement it.
- Prepare and post policies with respect to workplace violence and workplace harassment and develop programs supporting workplace harassment and workplace violence policies.
- Ensure knowledge of applicable legislative, regulatory, codes and standards so requirements to be followed are clear to all workers/apprentices.

Trainer/Supervisor Responsibilities include but are not limited to the following:

- Ensure that a worker or apprentice works in compliance with the Act and regulations.
- Ensure that any equipment, protective device or clothing required by the employer is used or worn by the worker or apprentice.
- Advise a worker/apprentice of any potential or actual health or safety dangers known by the supervisor.
- Take every precaution reasonable in the circumstances for the protection of workers.

Worker/Apprentice Responsibilities include but are not limited to the following:

- Work in compliance with the Act and regulations.
- Use or wear any equipment, protective devices or clothing required by the employer.
- Report to the employer or supervisor any known missing or defective equipment or protective device that may endanger the worker or another worker.
- Report any hazard or contravention of the Act or regulations to the employer or supervisor.
- Not remove or make ineffective any protective device required by the employer or by the regulations.
- Not use or operate any equipment or work in a way that may endanger any worker.

The Three Rights of Workers/Apprentices

The OHSA gives workers and apprentices three important rights:

1. The right to know about hazards in their work and get information, supervision and instruction to protect their health and safety on the job.
2. The right to participate in identifying and solving workplace health and safety problems either through a health and safety representative or a worker member of a joint health and safety committee.
3. The right to refuse work that they believe is dangerous to their health and safety or that of any other worker in the workplace.

Ministry of Labour, Immigration, Training and Skills Development

The Ministry of Labour, Immigration, Training and Skills Development conducts periodic inspections of workplaces to ensure that safety acts and regulations are being followed. Please direct any questions to the Occupational Health and Safety Contact Centre at 1-877-202-0008.

Apprenticeship Program Summary/Guidelines

Scope of Practice

The Scope of Practice for the trade of Machine Tool Builder and Integrator is set out in section 85 of Ontario Regulation 875/21 under BOSTA and reads as follows:

85. The scope of practice for the trade of machine tool builder and integrator includes the following:

1. Reading and interpreting complex engineering drawings, schematics, bills of materials and machine-tool build assembly documentation.
2. Building precision in-process tooling, machine-tool parts and components using conventional and numerically controlled metal cutting machines and equipment, including saws, drills, grinders, lathes and mills.
3. Designing, devising and detailing assembly plans for the machine tool building and integrating process.
4. Building, assembling and integrating pneumatics, hydraulics, electrical components, power transmission systems, conveyor systems and feeder systems.
5. Assembling and integrating subassemblies into the main assembly of stand-alone machine tools and multistation automated machine tool systems.

*While the Logbook draws on the scope of practice regulation (Section 85 of Ontario Regulation 875/21 under BOSTA). The Logbook 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 7280 hours as the benchmark necessary for any Apprentice to become competent in the skills required. There may be circumstances in which the duration varies from this guideline.

In-Class 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.

Total Training Hours

8000 hours

Journeyperson to Apprentice Ratio

Industry Recommended Ratios: While some of the trades regulated under BOSTA are subject to Journeyperson to Apprentice ratios set out in regulation, this trade is not one of them. Instead, **industry has recommended a Journeyperson to Apprentice ratio guideline of 1 Journeyperson (or individual who is deemed equivalent to a journeyperson)** to 1 Apprentice as the ratio necessary for an Apprentice to be properly trained on the job in this program.

Program Requirements

Compulsory and Non-compulsory Classification

Regulations under the *Building Opportunities in the Skilled Trades Act, 2021,* classify each trade as either “compulsory” or non-compulsory.” This trade is non-compulsory.

It is the responsibility of an Apprentice to maintain a training record in the form of a Logbook. The Sponsor and Trainer are required to sign-off when competencies in the trade are achieved.

Skills for Success Summary

Skills for Success are needed in a quickly changing world for work, learning and life. They are foundational for building other skills and important for effective social interaction. Everyone benefits from having these skills as they help individuals get a job, progress at their current job and change jobs. They also help individuals become active members of their community and succeed in learning.

Through extensive research and consultations, the Government of Canada launched the new Skills for Success model renewing the previous Essential Skills framework to better reflect the needs of the current and future labour market.

The occupational specific Essential Skills profiles are available online. These will be updated over time to align with the new Skills for Success model found here: Skills for Success model

Standard of Performance

In general, the standard of performance for the trade of Machine Tool Builder and Integrator are to be performed, as applicable, according to and in compliance with the following:

Industry Safety Standards which are based upon:

- Occupational Health and Safety Legislation and Regulations;
- Jurisdictional legislation and regulations, codes and standards (municipal bylaws etc.)
- Company policies and procedures
- All applicable manufacturers specifications and engineering specifications

Training the Apprentice - Tips for Apprentices, Sponsors and Trainers

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 procedures early to create good habits;
- Use your Logbook as a journal to keep track of the skills you have achieved;
- Review your training plan with your Training Consultant, Trainer, or Sponsor;
- Discuss your training needs with your Trainer and/or Sponsor;
- Listen to the suggestions of your Trainer;
- 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.

To get the most from this mentoring experience, request exposure to the full scope of the trade; meet regularly with your Sponsor/Trainer to discuss your progress, ask questions and seek feedback.

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.);
- Set out clear expectations and involve both the Apprentice and Trainer in developing the training plan
- Encourage safe work habits;
- Allow time for the Trainer to train and 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;
- Recognize good performance;
- Observe frequently;
- Provide constructive feedback and conduct regular performance reviews involving the Apprentice and Trainer;
- Use the Logbook 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.

- 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.

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 Logbook with the Apprentice and develop a training plan;
- Set out clear expectations and recognize good performance;
- Expose Apprentices to the full scope of the trade by providing training on the skills outlined in this document;
- Encourage and respond to all questions;
- Be patient;
- Explain, show and demonstrate the skill;
- **Meet regularly with the Apprentice to discuss the apprentice's progress**
- Provide continuous feedback;
- Sign-off skills when your Apprentice demonstrates competency, and,
- Use the Logbook as a guide to evaluate competence in each skill area. By using the Logbook, Trainers will be able to guide the process to and assist Apprentices to develop skills outlined in this document.

The best mentoring experience is when an Apprentice is given as much training/exposure to the full scope of the trade as possible. If this is not possible, help them to determine other ways this may be possible.

Notice of Collection of Personal Information

1. At any time during your apprenticeship training, you may be required to show this Logbook to the local Service Delivery Office. You will be required to submit the signed Apprenticeship Completion form to the Service Delivery Office in order to complete your program. The Service Delivery Office 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 Service Delivery Office will disclose information about your program completion and your Certificate of Apprenticeship to Skilled Trades Ontario, as it is necessary for Skilled Trades Ontario to carry out its responsibilities.

3. Your personal information is collected, used and disclosed by the Ministry of Labour, Immigration, Training and Skills Development under the authority of the *Building Opportunities in the Skilled Trades Act, 2021 (BOSTA).*

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 Labour, Immigration, Training and Skills Development
   33 Bloor St. E, 2nd floor, Toronto, Ontario M7A 2S3
   Toll-free: 1-800-387-5656; Toronto: 416-326-5656
   TTY: 1-866-533-6339 or 416-325-4084

List of Trainers

Trainer's Name (Please Print)	Trainer's Signature	Date of start with Trainer (day/month/year)

5530.0 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; conducting pre- operational check of equipment; and, locking out and tagging equipment.

Performance Objectives

Skills

5530.01 **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 Print Name	Apprentice Signature

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

5530.02 **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 Print Name	Apprentice Signature

5530.03 **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 Print Name	Apprentice Signature

5530.04 **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 Print Name	Apprentice Signature

5530.05 **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 Print Name	Apprentice Signature

5530.06 **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 Print Name	Apprentice Signature

5530.07 **Practise industrial hygiene** by wearing required clothing and using eye wash, or showering to prevent contamination or injury in compliance with company standards/procedures and Safety Legislation.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5530.08 **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 Print Name	Apprentice Signature

5530.09 **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 Print Name	Apprentice Signature

5530.10 **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 Print Name	Apprentice Signature

5530.11 **Follow procedures for applying first aid** to treat conditions including (not limited to) sudden illness, burns, cuts, abrasions, sprains, chemical inhalations, falls, and contaminants in eyes, so that the condition of the victim is stabilized and prepared for further first aid treatment in compliance with Safety Legislation and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5530.12 **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 Print Name	Apprentice Signature

5530.13 **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 Print Name	Apprentice Signature

5530.14 **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 Print Name	Apprentice Signature

5531.0 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.

Performance Objectives

Skills

5531.01 **Read and interpret engineering drawings** to identify dimensions and tolerances, machine surface designations and allowances, type and features of workpiece material, and any other information needed to plan the machining job in accordance with company standards/procedures and job specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

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

5531.02 **Perform calculations for machining operations** including 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 job specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5531.03 **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 Print Name	Apprentice Signature

5531.04 **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 Print Name	Apprentice Signature

5531.05 **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 Print Name	Apprentice Signature

5531.06 **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 Print Name	Apprentice Signature

5531.07 **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 Print Name	Apprentice Signature

5531.08 **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 Print Name	Apprentice Signature

5531.09 **Identify and prepare cutting tools** by sharpening or replacing tools in accordance with manufacturer's specifications, engineering drawings, and company standards/procedures, so that the cutting shape and angle are prepared for optimum cutting and personal safety.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5531.10 **Identify and select measuring instruments and checking devices**, ensuring that instruments and devices selected are capable of obtaining 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 Print Name	Apprentice Signature

5531.11 **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 Print Name	Apprentice Signature

5531.12 **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 and job specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5531.13 **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 securely position and locate the workpiece in machine in accordance with Safety Legislation, engineering drawings, and job specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5531.14 **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 Print Name	Apprentice Signature

5531.15 **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 materials.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5531.16 **Communicate with co-workers** to identify previous job operations, availability of tools, parts, and machinery, scheduling requirements, and any other information needed to plan and prepare for the machining job, ensuring that the information communicated is clear, concise, and accurate.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5532.0 Perform Work-In-Process Dimensional or Surface Verification

General Performance Objective

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

Performance Objectives

Skills

5532.01 **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 Print Name	Apprentice Signature

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

5532.02 **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 Print Name	Apprentice Signature

5532.03 **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 the pitch, thread geometry, and size of cut threads conforms to the engineering drawings and job specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5532.04 **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 Print Name	Apprentice Signature

5532.05 **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 Print Name	Apprentice Signature

5532.06 **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 Print Name	Apprentice Signature

5532.07 **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 Print Name	Apprentice Signature

5532.08 **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 engineering drawings and job specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5532.09 **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 Print Name	Apprentice Signature

5532.10 **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 completed workpiece conform to engineering drawings and job specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5532.11 **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 Print Name	Apprentice Signature

5533.0 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.

Performance Objectives

Skills

5533.01 **Hand-file** using files including (not limited to) flat, needle, bastard, rat-tail, lathe, and half-round files to remove excessive material so that workpiece is filed in accordance with engineering drawings and job specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

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

5533.02 **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 Print Name	Apprentice Signature

5533.03 **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 Print Name	Apprentice Signature

5533.04 **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 Print Name	Apprentice Signature

5533.05 **Hand-ream** using straight or spiral-fluted reamers to remove excessive material, so that the diameter and depth of reamed hole conforms to engineering drawings and job specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5533.06 **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 Print Name	Apprentice Signature

5533.07 **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 Print Name	Apprentice Signature

5533.08 **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 Print Name	Apprentice Signature

5534.0 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.

Performance Objectives

Skills

5534.01 **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 Print Name	Apprentice Signature

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

5534.02 **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 Print Name	Apprentice Signature

5534.03 **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 Print Name	Apprentice Signature

5534.04 **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 Print Name	Apprentice Signature

5534.05 **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 Print Name	Apprentice Signature

5534.06 **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 Print Name	Apprentice Signature

5534.07 **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 Print Name	Apprentice Signature

5534.08 **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, Safety Legislation.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5534.09 **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 Print Name	Apprentice Signature

5534.10 **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 Print Name	Apprentice Signature

5534.11 **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 Print Name	Apprentice Signature

5534.12 **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 Print Name	Apprentice Signature

5534.13 **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 Print Name	Apprentice Signature

5534.14 **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 Print Name	Apprentice Signature

5535.0 Perform Drilling Using Drill Press/Machine

General Performance Objective

Perform drilling using drill press/machine by: selecting drill tooling; identifying and preparing cutting tools; locating and positioning workpiece in drill; setting up tooling; selecting speeds and feeds of drill; 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.

Performance Objectives

Skills

5535.01 **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 Print Name	Apprentice Signature

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

5535.02 **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 or manufacturer's specifications and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5535.03 **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 Print Name	Apprentice Signature

5535.04 **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 Print Name	Apprentice Signature

5535.05 **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 Print Name	Apprentice Signature

5535.06 **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 Print Name	Apprentice Signature

5535.07 **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 Print Name	Apprentice Signature

5535.08 **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 Print Name	Apprentice Signature

5535.09 **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 Print Name	Apprentice Signature

5535.10 **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 Print Name	Apprentice Signature

5535.11 **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 Print Name	Apprentice Signature

5535.12 **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 Print Name	Apprentice Signature

5535.13 **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 Print Name	Apprentice Signature

5535.14 **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 Print Name	Apprentice Signature

5535.15 **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 Print Name	Apprentice Signature

5535.16 **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 drilled workpiece conform to the engineering drawings and job specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5535.17 **Move workpiece** by operating lifting and rigging equipment including (not limited to) hoists, overhead cranes, chain falls, lift pins, eye bolts, slings, cables, and 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 Print Name	Apprentice Signature

5535.18 **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 Print Name	Apprentice Signature

5535.19 **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 Print Name	Apprentice Signature

5536.0 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.

Performance Objectives

Skills

5536.01 **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 Print Name	Apprentice Signature

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

5536.02 **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 Print Name	Apprentice Signature

5536.03 **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, job specifications and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5536.04 **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, job specifications, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5536.05 **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 Print Name	Apprentice Signature

5536.06 **Hone holes using honing machine** and required attachments, so that the dimension and tolerance of honed holes conform to engineering drawings and job specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5536.07 **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 Print Name	Apprentice Signature

5536.08 **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 Print Name	Apprentice Signature

5536. 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 Print Name	Apprentice Signature

5536. 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 Print Name	Apprentice Signature

5536.11 **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 Print Name	Apprentice Signature

5536.12 **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, job specifications, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5536.13 **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 Print Name	Apprentice Signature

5536.14 **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 Print Name	Apprentice Signature

5537.0 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 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.

Performance Objectives

Skills

5537.01 **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 Print Name	Apprentice Signature

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

5537.02 **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 Print Name	Apprentice Signature

5537.03 **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 Print Name	Apprentice Signature

5537.04 **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 Print Name	Apprentice Signature

5537.05 **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 Print Name	Apprentice Signature

5537.06 **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 Print Name	Apprentice Signature

5537.07 **Establish a reference or starting point (datum)** by zeroing out machine and ensuring that the datum is correctly located in accordance with job specifications and company standards/procedures

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5537.08 **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 Print Name	Apprentice Signature

5537.09 **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 Print Name	Apprentice Signature

5537.10 **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 Print Name	Apprentice Signature

5537.11 **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 Print Name	Apprentice Signature

5537.12 **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 Print Name	Apprentice Signature

5537.13 **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 Print Name	Apprentice Signature

5537.14 **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 Print Name	Apprentice Signature

5537.15 **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 Print Name	Apprentice Signature

5537.16 **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 Print Name	Apprentice Signature

5537.17 **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 Print Name	Apprentice Signature

5537.18 **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 Print Name	Apprentice Signature

5537.19 **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 Print Name	Apprentice Signature

5537.20 **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 Print Name	Apprentice Signature

5537.21 **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 Print Name	Apprentice Signature

5537.22 **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, job specifications, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5537.23 **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 Print Name	Apprentice Signature

5538.0 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.

Performance Objectives

Skills

5538.01 **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 Print Name	Apprentice Signature

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

5538.02 **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 Print Name	Apprentice Signature

5538.03 **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 Print Name	Apprentice Signature

5538.04 **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 Print Name	Apprentice Signature

5538.05 **Select speeds and feeds of mill** using speed and 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 Print Name	Apprentice Signature

5538.06 **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 Print Name	Apprentice Signature

5538.07 **Face-mill** using a milling machine, 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 Print Name	Apprentice Signature

5538.08 **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 Print Name	Apprentice Signature

5538.09 **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 Print Name	Apprentice Signature

5538.10 **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 Print Name	Apprentice Signature

5538.11 **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 Print Name	Apprentice Signature

5538.12 **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 Print Name	Apprentice Signature

5538.13 **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 Print Name	Apprentice Signature

5538.14 **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 Print Name	Apprentice Signature

5538.15 **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 Print Name	Apprentice Signature

5538.16 **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 Print Name	Apprentice Signature

5538.17 **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 Print Name	Apprentice Signature

5539.0 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; monitoring machine process; performing final inspection; completing work documentation; moving workpiece; maintaining material identification; and practising good housekeeping.

Performance Objectives

Skills

5539.01 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.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

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

5539.02 **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 the workpiece efficiently and safely.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5539.03 **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.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5539.04 **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.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5539.05 **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 conform to the engineering drawings and job specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5539.06 **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 and job specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5539.07 **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.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5539.08 **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 Print Name	Apprentice Signature

5539.09 **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 Print Name	Apprentice Signature

5539.10 **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 Print Name	Apprentice Signature

5539.11 **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 Print Name	Apprentice Signature

5540.0 Devise and Detail a Plan for the Building and Integration of the Machine-Tool(s)

General Performance Objective

Devise and detail a plan for the building and integration of the machine-tool(s) by: verifying the features of machine-tool components; developing and organizing a building and integration plan; performing machine-tool building and integrator related calculations; producing a preliminary sketch of tooling components and sub-assemblies; and, assembling and verifying die or tooling stock materials.

Performance Objectives

Skills

5540.01 Verify the features of machine-tool components and materials by reading and interpreting engineering drawings, bill of materials, component prints, assembly, or part drawings to correctly identify: tolerances; sizes; diameters; revision level; projection and section views; component shapes; number of stations; number of working components; material specifications; thickness and type of workpiece materials; assembly process; number of functions; and, quantity and type of parts, tools, and components; ensuring that all required component features are checked, identified, and verified.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

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

5540.02 **Develop and organize a plan for building and integration** to identify and document: types of machines and tools; job operations; sequencing of jobs; machining processes; fixtures and tooling; and, assembly, machining, and fabrication sequences or processes; so that all features of the machine tool builder and integrator plan are correctly identified and conform to engineering drawings, bill of materials, scheduled target dates, and job specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5540.03 **Perform building and integration related calculations** using conversion tables or charts, material and product-specifications tables or charts, and occupational graphs to correctly identify clearances, tolerances, and material contraction or expansion variables, so that all tooling dimensions, tolerances, size, and shapes are accurately determined and documented in accordance with engineering drawings, bill of materials, and job specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5540.04 **Assemble and verify die or tooling stock materials** for surface condition, hardening ability, heat-treat response, type, grade, and dimensions by checking colour codes, lettering, numerical stamps, charts, and stock lists, to ensure that the workpiece materials are the correct ones to build the die or tooling as specified in the engineering drawings, bill of materials, and job specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5540.05 **Produce a preliminary sketch of machine-tool components and sub-assemblies** using engineering drawings and component or part drawings, so that the machine-tool components and assemblies are correctly identified and sketched for shape, dimensions, tolerances, finishes, and fabrication sequences or procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5541.0 Build In-Process Tooling (Swaging, Electrodes, Nozzles, Forming, Trimming, & Machining Tools)

General Performance Objective

Build in-process tooling by: reading and interpreting in-process tool-build documentation; planning tool development; producing a preliminary sketch of the in-process tooling; cutting and preparing raw material; blocking up and establishing datum; fabricating in- process tooling (swaging, electrodes, nozzles, forming, trimming & machining tools); spot- forming tooling; performing try out of tooling; inspecting the operation performed by the developed tooling; completing work documentation; and practising good housekeeping.

Performance Objectives

Skills

5541.01 **Read and interpret in-process tool-building documentation** including (not limited to) part drawings, engineering drawings, bill of materials, sketches, piece parts, and job specifications to identify type, size, shape, form, tolerances, finish, material specifications and any other information needed to build the in-process tooling.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

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

5541.02 **Plan tool development** by reading and interpreting job specifications to identify: sequence of operations; types of operations; design parameters; space limitations; interfacing requirements; features of the final product; and, type of tooling including forming, trimming, machining, swaging, electrodes, and nozzles; so that the in-process tool can be completed to produce the required piece part in accordance with engineering drawings, bill of materials, CAD data, company standards, and job specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5541.03 **Produce a preliminary sketch of the in-process tooling** using information from job specifications, engineering drawings, bill of materials, and piece parts, so that the tool components and assembly are correctly identified and sketched for shape, dimensions, functions, tolerances, part assembly interrelationship, and any other features required to fabricate the finished in-process tool.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5541.04 **Cut and prepare raw material** to specified lengths and allowances by machining with a bandsaw or cut-off wheels and by measuring or checking dimensions so that the rough prepared piece conforms with engineering drawings, bill of materials, and job specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5541.05 **Block up and establish datum** on a workpiece by measuring and checking with micrometers, verniers, and height gauges, and by machining with milling or lathe machines, so that the datum faces are identified and the height, width, squareness, and allowances of the blocked-up workpiece conform to the engineering drawing and job specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5541.06 **Fabricate in-process tooling (swaging, electrodes, nozzles, forming, trimming, & machining tools)** by following pre-determined machining processes including (not limited to) milling, grinding, drilling, and turning, and by measuring and checking using gauge blocks, micrometers, verniers, height gauges, and dial test indicators, so that the dimensions, shapes, tolerances, and surface finish of the machined tooling conform to prepared sketches, job specifications, engineering drawings, bill of materials, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5541.07 **Spot-form tooling** by performing required spot-forming procedures using try-out materials, high-spot blue, and grinding equipment, so that the finalized tool is adjusted for the shape and type of operation as specified in the engineering drawings, bill of materials, job specifications, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5541.08 **Perform try-out of tooling** by: performing required try-out procedures; using soldering devices, roll-forming heads, try-out materials or equipment, and high-spot blue; grinding the surfaces; and, placing or fitting tooling to job parts; so that the tooling is adjusted to perform the operations to the specified size, shape, function, and dimensions in the engineering specifications, prepared sketches, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5541.09 **Inspect the operation performed by the developed tooling** by reading and interpreting information from tool drawings, sketches, and engineering drawings and by checking using measuring instruments and checking devices, so that the operation produced by the tooling conforms to the engineering drawings, bill of materials, and job specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5541.10 **Complete work documentation** including (not limited to) tracking sheets, sign-off sheets, inspection reports, engineering drawings, 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 Print Name	Apprentice Signature

5541.11 **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 and 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 Print Name	Apprentice Signature

5542.0 Assemble and Integrate Pneumatics and Hydraulics

General Performance Objective

Assemble and integrate pneumatics and hydraulics by: reading and interpreting pneumatic and hydraulic documentation; identifying, selecting, preparing, and installing pneumatic and hydraulic components; testing functionality of pneumatics and hydraulics; completing work documentation; and practising good housekeeping.

Performance Objectives

Skills

5542.01 **Read and interpret pneumatic and hydraulic documentation** including (not limited to) schematics, engineering drawings, bill of materials, and job specifications to identify: component number; part identification; sizes; pressure rating; flow rating; assembly procedures; and, any other information needed to identify, assemble, and integrate the pneumatic and hydraulic components in the building of the machine-tool.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

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

5542.02 **Identify and select pneumatic and hydraulic components** including (not limited to) power source, valves, pressure switches, flow controls, regulators, fittings, hoses, linear cylinders, pneumatic vacuum systems, rotary actuators, linear cross-slides, and motors by reading and interpreting schematics, engineering drawings, bill of materials, and job specifications so that the pneumatic and hydraulic components selected are the correct ones for assembly and integration into the machine-tool.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5542.03 **Prepare pneumatic and hydraulic components** by: using files, scrapers, honing-stones, wrenches, and thread sealant; cleaning mating surfaces; installing fittings; lubricating moving parts; and, assembling parts; so that the components are prepared and assembled in accordance with manufacturer's specifications, schematics, engineering drawings, bill of materials, job specifications, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5542.04 **Install pneumatics and hydraulics** by following required procedures including (not limited to): fabricating mounting hardware; mounting components using fasteners, brackets, and couplings; installing and fitting hoses; aligning components to the assembly by using equipment and tools including (not limited to) indicators, feeler gauges, verniers, squares, gauge blocks, scales, layout medium or dye, height gauges, and high spot blue; checking fittings for leaks; and, checking the rotation, stroke, speed, pressures, and directional flow; so that the pneumatics and hydraulics are installed in accordance with manufacturer's specifications, engineering drawings, bill of materials, schematics, job specifications, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5542.05 **Test functionality of pneumatics and hydraulics** by: hooking up to test bank; actuating components; checking motions, valves, speed and directional flow; and, making required adjustments; to ensure that all components are operational and functioning in accordance with manufacturer's specifications, schematics, bill of materials, job specifications, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5542.06 **Complete work documentation** including (not limited to) tracking sheets, sign-off sheets, inspection reports, engineering drawings, bill of materials, or procedure sheets to record the finalization of jobs and to facilitate the traceability of work-in-process, ensuring that all data is recorded accurately and clearly in accordance with engineering drawings, bill of materials, job specifications and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5542.07 **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 and 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 Print Name	Apprentice Signature

5543.0 Assemble and Integrate Electrical Components

General Performance Objective

Assemble and integrate electrical components by: reading and interpreting electrical documentation; identifying, selecting, and installing electrical components; testing functionality of electrical components; completing work documentation; and practising good housekeeping.

Performance Objectives

Skills

5543.01 **Read and interpret electrical documentation** including (not limited to) schematics, engineering drawings, bill of materials, and job specifications to identify part number, sizes, type, capacity rating, assembly procedures, and any other information needed to assemble and integrate the electrical components into the building of the machine-tool.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

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

5543.02 **Identify and select electrical components** including (not limited to) servo-motors, switches, AC/DC motors, linear motors, sensors, tool monitors, encoders/scales, load cells, cameras, PLC controllers/panels, laser measuring devices, and robots, by reading and interpreting schematics, engineering drawings, bill of materials, and job specifications so that the electrical components selected are the correct ones for assembly and integration into the machine-tool.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5543.03 **Install electrical components in the machine-tool** by following required procedures including (not limited to): fabricating mounting hardware; assembling parts; mounting components using fasteners, brackets, and couplings; aligning components to the assembly using equipment and tools including (not limited to) indicators, feeler gauges, verniers, squares, gauge blocks, scales, layout medium or dye, height gauges, and high spot blue; checking range of the component; and, checking the switch actuator; so that the electrical components are installed on to the machine-tool in accordance with manufacturer's specifications, engineering drawings, bill of materials, schematics, job specifications, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5543.04 **Test functionality of electrical components on the machine-tool** by: hooking up sensors to test bank; actuating components; checking location of proximity switches; checking on/off switches; and, making required adjustments to limit switches, flow switches, and proximity switches; to ensure that all electrical components on the machine-tool are operational and functioning in accordance with manufacturer's specifications, schematics, job specifications, and company standards/procedures

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5543.05 **Complete work documentation** including (not limited to) tracking sheets, sign-off sheets, inspection reports, engineering drawings, bill of materials, and 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, bill of materials, job specifications and company standards/procedures or procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5543.06 **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 and 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 Print Name	Apprentice Signature

5544.0 Assemble and Integrate Power Transmission System

General Performance Objective

Assemble and integrate power transmission system by: reading and interpreting power transmission documentation; identifying, selecting, and preparing the power transmission components; fitting, assembling and installing power transmission components and assemblies; completing work documentation; and, practising good housekeeping.

Performance Objectives

Skills

5544.01 **Read and interpret power transmission documentation** including (not limited to) schematics, engineering drawings, bill of materials, and job specifications to identify conveyor drives, cam drives, rotary indexing dials, component number, part identification, sizes, ratios, speed, and assembly procedures, and any other information needed to identify, assemble, build, and integrate the power or drive transmission components, indexing conveyor transmission, and systems into the building of the machine-tool.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

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

5544.02 **Identify and select power transmission components** including (not limited to) gear boxes, reducers, rotary tables, pulleys, belts, sprockets, chains, rack and pinions, couplings, and cam boxes by reading and interpreting schematics, engineering drawings, bill of materials, and job specifications, so that the power transmission components selected are the correct ones for assembly and integration into the machine-tool.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5544.03 **Prepare power transmission components** by following required procedures including (not limited to): using files, scrapers, stones, indicators, verniers, micrometers, feeler gauges, height gauges, and bearing blue; cleaning mating surfaces; fitting and assembling parts; lubricating moving parts; checking alignments and fits; and, making required adjustments; so that the transmission components are prepared and assembled in accordance with manufacturer=s specification, schematics, engineering drawings, bill of materials, job specifications, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5544.04 **Fit and assemble power transmission components** by following required procedures including (not limited to): setting and adjusting gear clearance/backlash; setting and adjusting tension or pre-load of chains and belts; aligning sprockets, pulleys, and shafts; setting gear squareness and alignments; setting bearing pre-loads; aligning cams; making required adjustments; and, using torque wrenches, high spot blue, indicators, feeler gauges, verniers, height gauges, squares, gauge blocks, and depth micrometer; so that the transmission is fitted and assembled in accordance with manufacturer’s specification, schematics, engineering drawings, bill of materials, job specifications, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5544.05 **Install power transmission assemblies** by following required procedures including (not limited to): mounting components using fasteners, couplings, gears, keys, and keyways; aligning components to drive and assembly; lubricating moving components; and, using indicators, feeler gauges, torque wrenches, verniers, squares, gauge blocks, height gauges, scales, and laser inferometer; so that the transmission assemblies are installed in accordance with manufacturer's specifications, engineering drawings, bill of materials, schematics, job specifications, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5544.06 **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 Print Name	Apprentice Signature

5545.0 Assemble and Integrate Conveyor System

General Performance Objective

Assemble and integrate conveyor system by: reading and interpreting conveyor system documentation; identifying, selecting, and preparing conveyor system and components; preparing conveyor site; fitting and assembling conveyor system components; installing conveyor system components; testing functionality of conveyor system; completing work documentation; and practising good housekeeping.

Performance Objectives

Skills

5545.01 **Read and interpret conveyor system documentation** including (not limited to) engineering drawings, bill of materials, and job specifications to identify: type of system; component numbers; part identification; assembly procedures; and any other information needed to identify, assemble, and integrate the conveyor components in the building of the machine-tool.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

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

5545.02 **Identify and select conveyor system and components** including (not limited to) belts, chains, roller, palletizer system, motors, transmissions, shafts, stops, bearings, magnets, sprockets, chains, pallet stations, switches, part tracking read and write tags, elevators, rotates, lifters, pallets, and guide rails, by reading and interpreting engineering drawings, bill of materials, and job specifications, ensuring that the conveyor system and components selected are the correct ones for assembly and integration in the machine-tool.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5545.03 **Prepare conveyor site** by following required procedures including (not limited to): determining floor layout from prints; laying out the assembly and floor area; and, using laser transit, chalk lines, plumb lines, and measuring or checking tools and equipment; so that the site is prepared for the assembly and installation of conveyor system in accordance with manufacturer's specification, engineering drawings, bill of materials, job specifications, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5545.04 **Fit and assemble conveyor system components** by following required procedures including (not limited to): setting and adjusting tension or pre-load of chains and belts; aligning shafts and tracking the belts; checking and setting stops; adjusting and setting pallet stations; setting height and position of conveyor system; checking and setting switches, pallet readers, and R.F. identification tags; fabricating or manufacturing mounting hardware; making required adjustments; and, using levels, piano wire, laser, squares, tape measures, and hand tools; so that the conveyor system is fitted and assembled in accordance with manufacturer's specification, engineering drawings, bill of materials, job specifications, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5545.05 **Install conveyor assemblies** by following required procedures including (not limited to): laying out site; placing assemblies on the layout; setting heights and locations; leveling system; aligning drive and take-up end; anchoring conveyor; installing belts and chains; hooking up drive, pneumatic, and hydraulic systems; lubricating moving parts; and, using chalk line, laser or laser transit, plumb bob, anchoring devices, hammer drills, levels, tape measures, and squares; so that the conveyor system is installed in accordance with manufacturer's specifications, engineering drawings, bill of materials, job specifications, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5545.06 **Test functionality of conveyor system** by following required procedures including (not limited to): performing a dry run to check cycle time, tension, tracking, pallet or part locations, stop locations, switch locations, and part tracking system; making required adjustments; and, using measuring and checking equipment; to ensure that all components are operational and functioning in accordance with manufacturer's specifications, job specifications, engineering drawings, bill of materials, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5545.07 **Complete work documentation** including (not limited to) tracking sheets, sign-off sheets, inspection reports, engineering drawings, or procedure sheets to record the finalization of jobs and facilitate the 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 Print Name	Apprentice Signature

5545.08 **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 and 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 Print Name	Apprentice Signature

5546.0 Assemble and Integrate Feeder System

General Performance Objective

Assemble and integrate feeder system by: reading and interpreting feeder system documentation; identifying, selecting, and preparing feeder system components; fitting, assembling, and installing feeder system components; testing functionality of feeder system; completing work documentation; and, practising good housekeeping.

Performance Objectives

Skills

5546.01 **Read and interpret feeder system documentation** including (not limited to) engineering drawings, bill of materials, manufacturer's and job specifications to identify: type of system; component numbers; part identification; assembly procedures; and, any other information needed to identify, assemble, and integrate the feeder system components in the building of the machine-tool.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

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

5546.02 **Identify and select feeder system and components** including (not limited to) vibratory bowl, in-line, pneumatic feeder, solenoid-activated, conveyor-type, gravity, hopper, auger, blower, and components, by reading and interpreting engineering drawings, manufacturer's specifications, bill of materials, and job specifications, ensuring that the feeder system and components selected are the correct ones for building of the machine-tool.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5546.03 **Prepare feeder system components** by following required procedures including (not limited to): using files, scrapers, stones, and hand tools; deburring; cleaning mating surfaces; fitting and assembling parts; fabricating or manufacturing mounting hardware; and, lubricating moving parts; so that the feeder components are prepared in accordance with manufacturer's specification, engineering drawings, bill of materials, job specifications, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5546.04 **Fit and assemble feeder system components** by following required procedures including (not limited to): setting and adjusting heights; setting alignments and fits; checking and setting escapements, stops, orientation tooling, switches, fill levels, pressures, and feed rates; checking and setting switches and readers; making required adjustments; and, using height gauges, machinist level, straight edges, feeler gauges, indicators, verniers, high spot blue, micrometer, gauge blocks, and depth micrometers; so that the system is fitted and assembled in accordance with manufacturer's specification, engineering drawings, bill of materials, job specifications, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5546.05 **Install feeder system assemblies** by following required procedures including (not limited to): laying out site; placing assemblies on layout; setting heights and locations; levelling system; aligning tracks and tubes; anchoring and fastening feeder assemblies; hooking up drive, pneumatic, and hydraulic systems; lubricating moving parts; and, using height gauges, machinist level, straight edges, feeler gauges, indicators, verniers, high spot blue, micrometer, gauge blocks, depth micrometer, and hammer drills; so that feeder is installed in accordance with manufacturer's specifications, engineering drawings, bill of materials, job specifications, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5546.06 **Test functionality of feeder system** by following required procedures including (not limited to): performing a test run to check cycle time, feed rate, part orientation, noise levels, alignments, clearances, fill levels, back pressure, stops, switches, and vibratory functions; making required adjustments; and, using height gauges, machinist level, straight edges, feeler gauges, indicators, verniers, high spot blue, micrometer, gauge blocks, depth micrometers, and decibel sound meter; to ensure that all components are operational and functioning in accordance with manufacturer's and job specifications, engineering drawings, bill of materials, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5546.07 **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 Print Name	Apprentice Signature

5546.08 **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 Print Name	Apprentice Signature

5547.0 Sub-Assemble Machine-Tool Components

General Performance Objective

Sub-assemble machine-tool components by: identifying final production requirements; reading and interpreting sub-assembly documentation; fabricating details to be used in sub assemblies; identifying and selecting purchased components; preparing sub-assembly parts; fitting and assembling sub-assemblies; testing and verifying functionality of sub-assemblies; completing work documentation; and, practising good housekeeping.

Performance Objectives

Skills

5547.01 **Identify final production requirements of a sub-assembly** by reading and interpreting job specifications to identify: sequence of operations; types of operations; design parameters; space limitations; interfacing requirements; and, features of the final product; so that the assembly of the machine-tool can be completed to produce the required parts or products in accordance with engineering drawings, bill of materials, CAD data, company standards/procedures, and job specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

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

5547.02 **Read and interpret sub-assembly documentation** including (not limited to) engineering drawings, bill of materials, CAD data, machine-tool building plan, and job specifications to identify: type of assembly; component numbers; part identification; assembly procedures; and, any other information needed to identify and assemble components for main assembly.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5547.03 **Fabricate details to be used in sub-assemblies** including (not limited to) part location nest, spacers, wipers, fingers, slides, stops, punch and form tooling, end effectors, hold downs, pallet tooling, weldments, pilots, clamps, castings, and mouldings by: identifying and selecting workpiece materials; milling; turning; grinding; honing; heat-treating; drilling; sawing; mounting and installing hardware; and, measuring or checking; so that the details are machined to the size, shape, and tolerances as specified in the engineering drawings, bill of materials, CAD data, job specifications, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5547.04 **Identify and select purchased components** including (not limited to) clamps, stops, shims, spacers, bearings, housings, weldments, castings, cutters, punches, forming tools, ball screws, linear bearings, platens, ways, lubricators, pneumatic and hydraulic system, and electrical components, using engineering drawings, bill of materials, catalogues, and job specifications so that the components selected are the correct ones for the sub- assembly process.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5547.05 **Prepare parts of a sub-assembly** by following required procedures including (not limited to): using files, scrapers, honing or abrasives stones, and hand tools; deburring; cleaning mating surfaces; fitting and assembling parts; lubricating moving parts; and, pre-inspecting the parts; so that the sub-assembly parts are prepared for assembly in accordance with manufacturer's specification, engineering drawings, bill of materials, CAD data, job specifications, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5547.06 **Fit and assemble sub-assemblies** by following required procedures including (not limited to): fitting purchased and machined components; fitting surfaces by scraping, flaking, grinding, machining, stoning; honing surfaces; spotting the assembly; scraping; dowelling; fastening; keying; tacking; soldering; aligning; installing fittings; measuring and checking; applying lubrication and rust-prevention; inspecting; and, using height gauges, machinist level, straight edges, feeler gauges, indicators, verniers, high spot blue, micrometer, gauge blocks, and depth micrometers; so that the sub-assemblies are fitted and assembled in accordance with the machine-tool build and integration plan, engineering drawings, CAD data, bill of materials, job specifications, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5547.07 **Test and verify functionality of sub-assemblies** by following required procedures including (not limited to): running through the operational sequences; checking for alignments, clearances, noise levels, temperatures, friction, speed, wear, and accuracies; making required adjustments; and, using height gauges, machinist level, straight edges, feeler gauges, indicators, verniers, high spot blue, micrometer, gauge blocks, depth micrometer, and decibel sound meter; to ensure that the sub-assembly is operational and functioning in accordance with machine-tool build plan, manufacturer's specifications, job specifications, engineering drawings, bill of materials, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5547.08 **Complete work documentation** including (not limited to) tracking sheets, sign-off sheets, inspection reports, engineering drawings, or procedure sheets, to record the finalization of jobs and 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 Print Name	Apprentice Signature

5547.09 **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 and 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 Print Name	Apprentice Signature

5548.0 Integrate Main-Assembly

General Performance Objective

Integrate main-assembly by: identifying final production requirements; reading and interpreting main-assembly documentation; preparing components for main-assembly; integrating machine-tool sub-assemblies and components; testing and verifying tooling locations; dry run testing the main-assembly; test running main-assembly with job parts; verifying machine main-assembly; completing work documentation; and, practising good housekeeping.

Performance Objectives

Skills

5548.01 **Identify final production requirements of main-assembly** by reading and interpreting job specifications to identify: sequence of operations; types of operations; design parameters; space limitations; interfacing requirements; and, features of the final product; so that the final assembly of the machine-tool can be completed to produce the required parts or products in accordance with engineering drawings, bill of materials, CAD data, company standards/procedures, and job specifications.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

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

5548.02 **Read and interpret main-assembly documentation** including (not limited to) engineering drawings, CAD data, bill of materials, machine-tool building plan, and job specifications to identify: type of assembly; sub-assembly numbers; sub-assembly identification; assembly sequence; procedures; and, any other information needed to assembly and integrate main-assembly.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5548.03 **Prepare components for the main-assembly** by following required procedures including (not limited to): determining floor layout from drawings and job specifications; laying out floor or area; benching main frames and bases by re-tapping and re-reaming holes; deburring; cleaning and stoning mating surfaces; and, setting up rigging assemblies; so that the components are prepared and ready for main-assembly in accordance with manufacturer's specification, engineering drawings, CAD data, bill of materials, job specifications, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5548.04 **Integrate machine-tool sub-assemblies and components** by following required procedures including (not limited to): moving bases to layout location; levelling and locating bases; anchoring bases; setting and spotting sub-assemblies on base; installing transfer system; installing pneumatic, hydraulic, electrical, and lubrication systems; installing tooling components; aligning and locating components; and, measuring, checking, and tramming sub-assemblies; so that the assemblies and components are integrated and installed in accordance with engineering drawings, bill of materials, CAD data, job specifications, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5548.05 **Test and verify tooling locations** by following required procedures including (not limited to): manually stepping assembly through operational sequences; measuring and checking depths, clearances, heights, and movements; making required adjustments; and, using feeler gauges, depth micrometer, tape measures, indicators, gauge blocks, laser transit, theodolite, squares, piano wire, plumb bob, and height gauges; so that the tooling locations are located, positioned, and aligned in accordance with machine-tool build final assembly drawings, job specifications, engineering drawings, CAD data, bill of materials, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5548.06 **Perform dry-run test of main-assembly** by following required procedures including (not limited to): operating the main-assembly without parts and coolant; moving through the sequences in automatic mode; running through the operational sequences for a pre- determined time; testing out lubrication system, programs, preliminary cycle time, sequencing, repeatability, and performance; measuring and checking all dimensions and tolerances; checking for faults, leaks, loose wear parts, noise levels, temperature, friction, wear, speed, clearances, and accuracies; and, making required adjustments; to ensure that the main-assembly is operational and functioning in accordance with machine-tool build CAD data, final assembly drawings, manufacturer's specifications, job specifications, engineering drawings, bill of materials, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5548.07 **Test run main-assembly with job product or parts** by following required procedures including (not limited to): running the main-assembly with parts and coolant for a pre- determined time; testing out lubrication and coolant systems; checking cycle time, noise levels, and machine repeatability; checking the functions, process, and operations; checking chip control functions; checking machine performance for cycle time, downtime, changeover times, and sound levels; checking machine safety devices and switches; and, making required adjustments; to ensure that the main-assembly is accurately operating and functioning in accordance with job's requirements, machine-tool build final assembly plan, job specifications, engineering drawings, CAD data, bill of materials, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5548.08 **Verify machine main-assembly** by following required procedures including (not limited to): performing a capability study; inspecting the processed part for specifications, characteristics, dimensions, and functional properties; checking measurement variation of finished product which includes resolution/discrimination, bias (accuracy), repeatability, reproducibility, linearity, and stability; checking machine variation which includes histogram, centre, and spread; documenting all test results; and, obtaining job buy-off or approval; so that main-assembly is inspected, documented, and verified in accordance with acceptable capability index (Cp/Cpk, Pp/Ppk), job specifications, job buy-off requirements, CAD data, and company standards/procedures.

mm/dd/yy	Trainer Print Name	*Trainer Signature
mm/dd/yy	Apprentice Print Name	Apprentice Signature

5548.09 **Complete work documentation** including (not limited to) tracking sheets, sign-off sheets, inspection reports, engineering drawings, 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 Print Name	Apprentice Signature

5548.10 **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 and 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 Print Name	Apprentice Signature

Definitions

Apprentice

- An individual who, pursuant to a registered Training Agreement, is receiving or is to receive training in a trade that is required as part of an apprenticeship program
- Holds a Training Agreement in either a compulsory or non-compulsory trade;
- Are subject to any ratios that have been set out in regulation and or recommended by industry for their trade(s);
- Remain as an Apprentice until they receive their Certificate of Apprenticeship

BOSTA

Building Opportunities in the Skilled Trades Act, 2021 (BOSTA)

Certificate of Apprenticeship (C of A)

A certificate issued to individuals who have demonstrated that they have completed an apprenticeship program in Ontario.

Certificate of Qualification (C of Q)

A certificate issued to an individual who has completed an apprenticeship or equivalent AND passed the Certificate of Qualification examination.

Competence

The ability of an individual to perform a skill, consistently without assistance, in the workplace as set out in the Logbook.

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.

Journeyperson

Journeyperson means an individual who holds a certificate of qualification (in a compulsory or non-compulsory trade) and/or an individual who practices as a journeyperson in a non-compulsory trade who does not hold a certificate of qualification and has equivalent experience in that trade.

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.

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.

Provisional Certificates of Qualification

- A Provisional Certificate of Qualification is issued to an individual who has obtained a Certificate of Apprenticeship (in both compulsory and non-compulsory trades) in a program that has a Certificate of Qualification examination, to which the individual has not yet passed the Certificate of Qualification examination.
- A Provisional Certificate of Qualification shall have the prescribed term or, if no term is prescribed, a term of one year.
- In a compulsory trade, the Provisional Certificate of Qualification allows a person to continue working legally in the trade for up to 12 months while they work to pass the certifying exam.
- Individuals with a Provisional Certificate of Qualification are subject to any ratios that have been set out for their trade(s).

Ratios

For the purpose of an Apprenticeship program, a ratio is the maximum number of Journeypersons to Apprentices. The purpose of ratios is to provide consistent supervision, training and continuity of work.

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 competency/task described in the Logbook.

Skill Sets

Group or selection of individual skills found in the Logbook.

Skill Set Completion for Sponsors

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

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.

Sponsor of Record
Refers to the Sponsor documented as being signatory to the registered Training Agreement or Contract of Apprenticeship. In order for a Sponsor to be considered for the training of Apprentices, they must identify that the workplace has qualified persons 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.

Trainer
An individual who oversees the performance of a task and sets the workplace expectations and practices for the Apprentice. For a compulsory trade, a qualified Trainer is an individual who holds a Certificate of Qualification. In a non-compulsory trade, a Trainer is an individual who either holds a CofQ, CofA, or is considered equivalent.

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 hold yourself out as a Journeyperson 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

Ontario's Exam Preparation Guide
Exam Resources – Skilled Trades Ontario

Basic Examination Details for You to Know

- You will have **up to four hours to write your examination.**
- Accommodations must be requested and approved prior to scheduling your examination.
- You can leave the examination centre if you complete the examination in less than four hours.
- 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.
- You need a mark of 70% to pass.

Scheduling Your Examination
The examination scheduling process is currently outlined in detail on the Skilled Trades Ontario website: Exam Scheduling – Skilled Trades Ontario

Remember these 3 basic steps:

1. Confirm your eligibility to write the examination with Skilled Trades Ontario.
2. Contact Client Services at Skilled Trades Ontario to pay your examination fee.
3. Contact the local Service Delivery Office to schedule your examination in their examination centre: https://www.ontario.ca/page/employment-ontario-apprenticeship-offices

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 Service Delivery Office immediately to update your sponsor record.
3. Please make sure you record all 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		
Training Agreement #		**Date (mm/dd/yy)**
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	

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, visit SkilledTradesOntario.ca and search Sponsor Record Form.**

Change of Sponsor Record #2

Sponsor Information		
Apprentice Name		
Training Agreement #		**Date (mm/dd/yy)**
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	

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, visit SkilledTradesOntario.ca and search Sponsor Record Form.**

Change of Sponsor Record #3

Sponsor Information		
Apprentice Name		
Training Agreement #		**Date (mm/dd/yy)**
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	

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, visit SkilledTradesOntario.ca and search Sponsor Record Form.**

Change of Sponsor Record #4

Sponsor Information		
Apprentice Name		
Training Agreement #		**Date (mm/dd/yy)**
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	

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, visit SkilledTradesOntario.ca and search Sponsor Record Form.**

Appendix A — Instructions for Apprenticeship Program Completion

Once an Apprentice has completed all the classroom training and benchmark on-the-job hours specified for the trade and has acquired all the mandatory skills included in this Logbook.

The Apprentice and the Sponsor complete the Apprentice Completion Form and the Skill Set Completion for Sponsors Form located on the following pages.

1. They sign the forms and submit them to their local Service Delivery Office. To find the closest office, check the contact information at ontario.ca/page/employment-ontario-apprenticeship-offices *or call the Employment Ontario toll free number at (1-800-387-5656).*

2. For All Trades: All mandatory skills (or the combination indicated in the completion requirements for the trade) in the Logbook must be signed-off. The recommended hours are a benchmark. If the Sponsor is completing the Apprentice before the industry recommended training hours are done, 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 Service Delivery Office by mail, fax, or email (as a scanned document), they should not include their Logbook; if they are presenting this form in person at the local Service Delivery Office, they should bring their Logbook with them.

After 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 local Service Delivery Office will issue a Certificate of Apprenticeship to the Apprentice.

Skilled Trades Ontario will receive notification of this completion.

- If the Apprentice has completed a program in a **compulsory trade,** Skilled Trades Ontario will automatically register the Apprentice for a Provisional Certificate of Qualification to continue to work legally for one year while preparing for the certification examination.
- If an Apprentice completes their apprenticeship in a **non-compulsory trade** and there is a Certificate of Qualification exam, they must write and pass the exam to receive a Certificate of Qualification from Skilled Trades Ontario.

For permission to schedule an exam once completion is confirmed, the individual must first contact the Skilled Trades Ontario Client Services Department at 647-847-3000 or toll free at 1-855-299-0028 to pay the certification examination fee. Once you have paid your exam fee with Skilled Trades Ontario, book your exam by contacting your nearest Employment Ontario local Service Delivery Office.

Appendix B — Apprentice Completion Form

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 Service Delivery Office (find contact information at ontario.ca/page/employment-ontario-apprenticeship-offices 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 *(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_____ **X** _____

Apprentice's Signature Date **Signature of Sponsor's Signing Authority Date**

Appendix C — Skill Set Completion for Sponsors

You will find the skill set numbers and titles in the Logbook'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
5530.0	Protect Self and Others	
5531.0	Plan and Prepare for Machining Job	
5532.0	Perform Work-In-Process Dimensional or Surface Verification	
5533.0	Perform Benchwork	
5534.0	Perform Sawing	
5535.0	Perform Drilling Using Drill/Press/Machine	
5536.0	Perform Machine Grinding	
5537.0	Perform Lathe Work	
5538.0	Perform Milling	
5539.0	Perform Numerical Controlled (NC)/Computerized Numerically Controlled (CNC) Machining	
5540.0	Devise and Detail a Plan for Building and Integration of Machine-Tool(s)	
5541.0	Build In-Process Tooling (Swaging, Electrodes, Nozzles, Forming, Trimming & Machining Tools)	
5542.0	Assemble and Integrate Pneumatics and Hydraulics	
5543.0	Assemble and Integrate Electrical Components	
5544.0	Assemble and Integrate Power Transmission System	
5545.0	Assemble and Integrate Conveyor System	
5546.0	Assemble and Integrate Feeder System	
5547.0	Sub-Assemble Machine-Tool Components	
5548.0	Integrate Main-Assembly	

Ministry of Labour, Immigration, Training and Skills Development use only:

Sponsor verified as most recent sponsor of record: Yes ( ) No ( )

Documentation to support completion of hours attached: Yes ( ) No ( )

Completion of classroom training verified: Yes ( ) No ( )

Staff Name _____ Signature _____

Date _____

Appendix D — Local Service Delivery Offices in Ontario

For current office listings visit: *ontario.ca/page/employment-Ontario-apprenticeship-offices*

Location	Contact	Location	Contact
Barrie 705-737-1431	55 Cedar Pointe Dr Unit 609, Barrie, ON L4N 5R7	**Marathon** 807-346-1550	52 Peninsula Road, Suite 103 Marathon, Ontario, P0T 2E0
Belleville 613-968-5558 1-800-953-6885	135 North Front St, Belleville, ON K8P 3B5	**Markham** 905-513-2695	140 Allstate Parkway, Suite 505, Markham, Ontario L3R 5Y8
Brantford 519-756-5197	505 Park Rd North Suite 201, Brantford, ON N3R 7K8	**North Bay** 705-495-8515 1-800-236-0744	200 First Ave West, North Bay, ON P1B 3B9
Chatham 519-354-2766 1-800-214-8284	870 Richmond St West 1st Floor, Chatham, ON N7M 5J5	**Ottawa** 613-731-7100 1-877-221-1220	Preston Square, 347 Preston Street, Suite 310, Ottawa, ON K1S 3H8
Cornwall 613-938-9702 1-877-668-6604	132 Second St East Ste 202, Cornwall, ON K6H 1Y4	**Owen Sound** 519-376-5790 1-800-838-9468	1450 1st Ave West, Suite 100, Owen Sound, ON N4K 6W2
Dryden 807-456-2665 1-800-734-9572	Provincial Government Building, 479 Government St, Dryden, ON P8N 3K9	**Peel** 905-279-7333 1-800-736-5520	The Emerald Centre, 10 Kingsbridge Garden Circle, Suite 404, Mississauga, ON L5R 3K6
Durham 905-433-0595 1-800-461-4608	78 Richmond Street West, Oshawa, ON L1G 1E1	**Pembroke** 613-735-3911 1-800-807-0227	615 Pembroke St East, Pembroke, ON K8A 3L7
Elliot Lake 1-800-236-8817	50 Hillside Dr North, Elliot Lake, ON P5A 1X4	**Peterborough** 705-745-1918 1-877-433-6555	901 Lansdowne St West, Peterborough, ON K9J 1Z5
Fort Frances 807-274-8634	922 Scott St 2nd Flr, Fort Frances, ON P9A 1J4	**Sarnia** 519-542-7705 1-800-363-8453	Bayside Mall, 150 Christina St North, Sarnia, ON N7T 7W5
Geraldton 807-854-1966	208 Beamish Avenue West Geraldton, Ontario P0T 1M0	**Sault Ste. Marie** 705-945-6815 1-800-236-8817	477 Queen St East 4th Flr, Sault Ste Marie, ON P6A 1Z5
Halton 905-842-5105 1-844-901-5105	700 Dorval Dr., Suite 201, Oakville, ON L6K 3V3	**St Catharines** 905-704-2991 1-800-263-4475	Garden City Tower, 301 St Paul St East, 10th Flr, St Catharines, ON L2R 7R4
Hamilton 905-521-7764 1-800-668-4479	Ellen Fairclough Bldg, 119 King St West 8th Flr, Hamilton, ON L8P 4Y7	**Sudbury** 705-564-3030 1-800-603-5999	159 Cedar St Ste 506, Sudbury, ON P3E 6A5
Kapuskasing 705-465-5785 705-235-1950	Ontario Government Complex, 122 Government Rd West, Kapuskasing, ON P5N 2X8	**Thunder Bay** 807-346-1550 1-800-439-5493	189 Red River Rd Suite 103, Thunder Bay, ON P7B 1A2
Kenora 807-468-2879 1-800-734-9572	227 1/2 Second St South, Kenora, ON P9N 1G4	**Timmins** 705-235-1950 1-877-275-5139	Ontario Government Complex, 5520 Highway 101 East Wing B, South Porcupine, ON P0N 1H0
Kingston 613-548-1151 1-866-973-4043	Alliance Business Centre, 299 Concession St Ste 201, Kingston, ON K7K 2B9	**Toronto Centre** 416-927-7366 1-800-387-5656	2 St Clair West, 11th floor Toronto, ON M4A 1L5
Kitchener 519-653-5758 1-866-877-0099	4275 King St East, Kitchener, ON N2P 2E9	**Toronto South** 416-326-5800	625 Church St 1st Fl, Toronto, ON M7A 2B5
London 519-675-7788 1-800-265-1050	1200 Commissioners Rd E, Unit 72, London, ON N5Z 4R3	**Windsor** 519-973-1441	Roundhouse Centre, 3155 Howard Ave 2nd Fl, Suite 200, Windsor, ON N8X 4Y8

Competency Analysis Profile (CAP) Chart

5530.0 Protect Self and Others	**5530.01** Identify health and safety hazards in the workpiece	**5530.02** Wear, adjust, and maintain personal protective equipment.	**5530.03** Wear, adjust, and maintain respiratory protectors.	**5530.04** Practise safe work habits.	**5530.05** Follow fire procedures.
	5530.06 Operate emergency safety equipment.	**5530.07** Practise industrial hygiene.	**5530.08** Practise good housekeeping in the workplace.	**5530.09** Conduct pre-operational check of equipment.	**5530.10** Report injuries.
	5530.11 Follow procedures for applying first aid.	**5530.12** Lock out mechanical equipment.	**5530.13** Handle designated substances.	**5530.14** Operate lifting equipment.	
5531.0 Plan and Prepare for Machining Job	**5531.01** Read and interpret engineering drawings.	**5531.02** Perform calculations for machining operations.	**5531.03** Read and interpret work-process documentation.	**5531.04** Verify workpiece material.	**5531.05** Identify and select cutting fluids.
	5531.06 Identify and select machines	**5531.07** Identify and check machine controls and systems.	**5531.08** Identify and select tooling.	**5531.09** Identify and prepare cutting tools.	**5531.10** Identify and select measuring instruments and checking devices.

(continued on next page)

5531.0 Plan and Prepare for Machining Job *(continued)*	**5531.11** Select machine speeds and feeds.	**5531.12** Lay out features of engineering drawings.	**5531.13** Identify and select work-holding devices.	**5531.14** Pick up datum/starting position.	**5531.15** Identify and select lifting and rigging equipment.
	5531.16 Communicate with co-workers.				
5532.0 Perform Work-In-Process Dimensional and Surface Verification	**5532.01** Check straight cuts.	**5532.02** Check shapes.	**5532.03** Check threads.	**5532.04** Check holes.	**5532.05** Check tapers.
	5532.06 Check hardness.	**5532.07** Maintain material identification.	**5532.08** Deburr workpiece.	**5532.09** Check surfaces.	**5532.10** Perform final inspection.
	5532.11 Complete work documentation				
5533.0 Perform Benchwork	**5533.01** Hand-file.	**5533.02** Hand-saw.	**5533.03** Hand-drill holes.	**5533.04** Hand-tap threaded holes.	**5533.05** Hand-ream.
	5533.06 Chase threads.	**5533.07** Hand-grind.	**5533.08** Practise good housekeeping		

5534.0 Perform Sawing	**5534.01** Check fused/welded blade.	**5534.02** Lay out features of engineering drawings.	**5534.03** Locate and position workpiece in saw.	**5534.04** Select speeds and feeds of saw.	**5534.05** Install and test-run blade.
	5534.06 Check first cut-off.	**5534.07** Cut shapes using a vertical bandsaw.	**5534.08** Cut squared and angled surfaces using a power cut-off saw.	**5534.09** Maintain material identification.	**5534.10** Deburr workpiece.
	5534.11 Perform final inspection.	**5534.12** Complete work documentation.	**5534.13** Move workpiece	**5534.14** Practise good housekeeping	
5535.0 Perform Drilling Using Drill Press and/or Drilling Machine	**5535.01** Select drill tooling.	**5535.02** Identify and prepare cutting tools for drills.	**5535.03** Locate and position workpiece in drill.	**5535.04** Set up tooling in drills.	**5535.05** Select speeds and feeds of drill.
	5535.06 Centre-drill a layout punch mark.	**5535.07** Drill a hole.	**5535.08** Chamfer a hole.	**5535.09** Ream a hole.	**5535.10** Machine-thread a hole.

(continued on next page)

5535.0 Perform Drilling Using Drill Press and/or Drilling Machine *(continued)*	**5535.11** Spot-face a hole.	**5535.12** Counter-bore a hole.	**5535.13** Counter-sink a hole.	**5535.14** Maintain material identification.	**5535.15** Deburr workpiece.
	5535.16 Perform final inspection	**5535.17** Move workpiece	**5535.18** Practise good housekeeping	**5535.19** Complete work documentation	
5536.0 Perform Machine Grinding	**5536.01** Select grinding wheel.	**5536.02** Check condition of grinding wheel.	**5536.03** Install grinding wheel.	**5536.04** Locate and position workpiece in grinder.	**5536.05** Surface grind workpiece.
	5536.06 Hone holes	**5536.07** Lap workpiece.	**5536.08** Grind inside and outside diameters. (ID/OD)	**5536.09** Grind tools and cutters.	**5536.10** Check ground surfaces.
	5536.11 Perform final inspection.	**5536.12** Move workpiece.	**5536.13** Complete work documentation.	**5536.14** Practise good housekeeping	

5537.0 Perform Lathe Work

5537.01 Select lathe cutting tools.	**5537.02** Identify and prepare lathe cutting tools.	**5537.03** Locate and position workpiece in lathe.	**5537.04** Set up lathe cutting tools.	**5537.05** Select speeds and feeds of lathe.
5537.06 Take a sizing (preliminary) cut.	**5537.07** Establish a reference or starting point (datum).	**5537.08** Face a surface.	**5537.09** Turn an external diameter.	**5537.10** Drill a hole.
5537.11 Bore an internal diameter.	**5537.12** Ream a hole.	**5537.13** Tap a hole.	**5537.14** Turn an internal or external thread.	**5537.15** Produce a taper.
5537.16 Knurl cylindrical surface patterns.	**5537.17** Groove and part-off.	**5537.18** Maintain material identification.	**5537.19** Deburr workpiece.	**5537.20** Perform final inspection.
5537.21 Complete work documentation.	**5537.22** Move workpiece.	**5537.23** Practise good housekeeping		

5538.0 Perform Milling Operations	**5538.01** Select milling cutting tools.	**5538.02** Identify and prepare milling cutting tools.	**5538.03** Set-up and maintain milling adjustable support tools.	**5538.04** Set-up milling cutting tools.	**5538.05** Select speeds and feeds of mill.
	5538.06 Perform fly-cutting.	**5538.07** Face-mill.	**5538.08** Machine steps, cut-outs, angles, and open slots.	**5538.09** Machine a pocket or slot.	**5538.10** Machine a hole.
	5538.11 Bore holes.	**5538.12** Maintain material identification.	**5538.13** Deburr workpiece.	**5538.14** Perform final inspection.	**5538.15** Move workpiece.
	5538.16 Complete work documentation.	**5538.17** Practise good housekeeping			
5539.0 Perform NC/CNC Machining	**5539.01** Identify and select NC/CNC machining process.	**5539.02** Identify, select, and set up NC/CNC cutting tools and tooling.	**5539.03** Identify, select, and set machine parameters.	**5539.04** Position and align workpiece in NC/CNC machine.	**5539.05** Input and verify part program at NC/CNC machine controls.
	5539.06 Monitor NC/CNC machining process.	**5539.07** Perform final inspection.	**5539.08** Maintain material identification.	**5539.09** Move workpiece	**5539.10** Complete work documentation
	5539.11 Practise good housekeeping				

5540.0 Devise and Detail a Plan for Building & Integration of Machine-Tool(s)	**5540.01** Verify the features of machine-tool components and materials.	**5540.02** Develop and organize a plan for machine-tool building and integration.	**5540.03** Perform building and integrating related calculations.	**5540.04** Assemble and verify die or tooling stock materials.	**5540.05** Produce a preliminary sketch of machine-toll components and sub-assemblies.
5541.0 Build In-Process Tooling (Swaging, Electrodes, Nozzles, Forming, Trimming, & Machining Tools)	**5541.01** Read and interpret in-process tool-building documentation.	**5541.02** Plan tool development.	**5541.03** Produce a preliminary sketch of the in-process tooling.	**5541.04** Cut and prepare raw material.	**5541.05** Block and establish datum.
	5541.06 Fabricate in-process tooling (Swaging, Electrode, Nozzles, Forming, Trimming, & Machining)	**5541.07** Spot-form tooling.	**5541.08** Perform try-out of tooling.	**5541.09** Inspect the operation performed by the developed tooling.	**5541.10** Complete work documentation
	5541.11 Practise good housekeeping				

5542.0 Assemble and Integrate Pneumatics and Hydraulics	**5542.01** Read and interpret pneumatics and hydraulic documentation.	**5542.02** Identify and select pneumatic and hydraulic components.	**5542.03** Prepare pneumatic and hydraulic components.	**5542.04** Install pneumatics and hydraulics.	**5542.05** Test functionality of pneumatics and hydraulics.
	5542.06 Complete work documentation	**5542.07** Practise good housekeeping.			
5543.0 Assemble and Integrate Electrical Components	**5543.01** Read and interpret electrical documentation.	**5543.02** Identify and select electrical components.	**5543.03** Install electrical components in the machine-tool.	**5543.04** Test functionality of electrical components on the machine-tool.	**5543.05** Complete work documentation.
	5543.06 Practise good housekeeping.				
5544.0 Assemble and Integrate Power Transmission System	**5544.01** Read and interpret power transmission documentation.	**5544.02** Identify and select power transmission components.	**5544.03** Prepare power transmission components.	**5544.04** Fit and assemble power transmission components.	**5544.05** Install power transmission assemblies.
	5544.06 Complete work documentation				

5545.0 Assemble and Integrate Conveyor System	**5545.01** Read and interpret conveyor system documentation.	**5545.02** Identify and select conveyor system and components.	**5545.03** Prepare conveyor site.	**5545.04** Fit and assemble conveyor system components.	**5545.05** Install conveyor assemblies.
	5545.06 Test functionality of conveyor system.	**5545.07** Complete work documentation	**5545.08** Practise good housekeeping		
5546.0 Assemble and Integrate Feeder System	**5546.01** Read and interpret feeder system documentation.	**5546.02** Identify and select feeder system and components.	**5546.03** Prepare feeder system components.	**5546.04** Fit and assemble feeder system components.	**5546.05** Install feeder system assemblies.
	5546.06 Test functionality of feeder system.	**5546.07** Complete work documentation	**5546.08** Practise good housekeeping		

5547.0 Sub-Assemble Machine Tool Components	**5547.01** Identify final production requirements of a sub-assembly.	**5547.02** Read and interpret sub-assembly documentation.	**5547.03** Fabricate details to be used in sub-assemblies	**5547.04** Identify and select purchased components.	**5547.05** Prepare parts of a sub-assembly.
	5547.06 Fit and assemble sub-assemblies	**5547.07** Test and verify functionality of sub-assemblies	**5547.08** Complete work documentation	**5547.09** Practise good housekeeping	
5548.0 Integrate Main-Assembly	**5548.01** Identify final production requirements of main-assembly	**5548.02** Read and interpret main-assembly documentation.	**5548.03** Prepare components for the main-assembly.	**5548.04** Integrate machine-tool sub- assemblies and components.	**5548.05** Test and verify tooling locations.
	5548.06 Perform dry-run test of main-assembly.	**5548.07** Test run main-assembly with job product or parts.	**5548.08** Verify machine main-assembly.	**5548.09** Complete work documentation	**5548.10** Practise good housekeeping.

Notes

Completing Your Apprenticeship Program

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

- ✓ Follow the completion instructions on the Completion Form (Appendix A) in the Logbook.
- ✓ Answer any questions that MLITSD staff may have and provide any additional completion documentation that may be required.
- ✓ Once completion is confirmed, MLITSD will issue you a Certificate of Apprenticeship and notify Skilled Trades Ontario.

After Your Apprenticeship

If you are in a trade with a certification exam, Skilled Trades Ontario will receive notice of your completion.

For compulsory trades, you will be issued a Provisional Certificate of Qualification which will allow you to work legally for up to 12 months until you write and pass your examination.

For a non-compulsory trade, once you pass your examination, you will be issued a Certificate of Qualification for your trade.

Preparing For Your Exam

- **To pay for a Certificate of Qualification examination, contact Skilled Trades Ontario** Client Services Department at: 647-847-3000 or toll free at 1-855-299-0028
- **To schedule your exam:** Once you have paid, contact your local Service Delivery Office to book your exam.
- **Download Skilled Trades Ontario exam preparation guide at:** Exam Resources – Skilled Trades Ontario **and/or view the exam preparation guide for Red Seal trades at:** red-seal.ca

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