Skilled Trades Ontario | Métiers spécialisés Ontario

Apprenticeship Training Standard Logbook

Motorcycle Technician

310G

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: _____

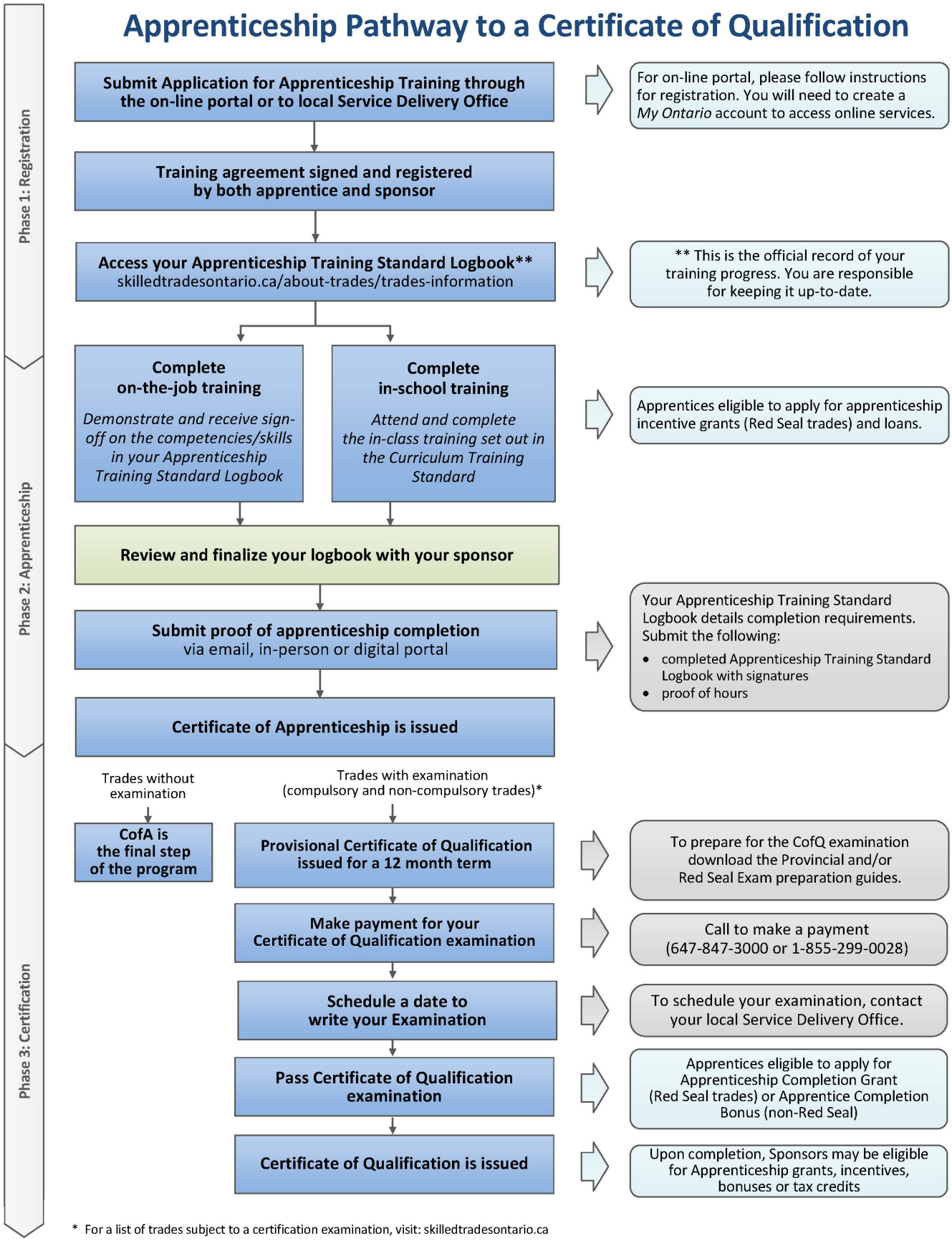
Training Agreement # (for Compulsory and Non-Compulsory trades):

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

Revised 2023 (V300)

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

Purpose:

- Prior to starting official apprenticeship activities, the apprentice and sponsor are required to sign a Training Agreement. Witness signatures are optional, not required. In addition, with the new functionality in the STO Portal, witness signatures cannot be collected if signing the agreement electronically.
- 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/
Highway Traffic Act of Ontario	Ministry of Transportation Act, R.S.O. 1990, c. M.36 (ontario.ca)
Environmental Protection Act, R.S.O. 1990, c. E.19	https://www.ontario.ca/laws/statute/90e19
Motorized Snow Vehicles Act and the Off-Road Vehicles Act of Ontario	Motorized Snow Vehicles Act, R.S.O. 1990, c. M.44 (ontario.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 and 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 **Motorcycle Technician (310G)** 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.

The content and structure of the Motorcycle Technician Training Standard was revised to be harmonized with the 2022 Red Seal Occupational Standard (RSOS) for the Trade. Although the scope of practice for Motorcycle Technician designates service and repair as separate skills, for the purpose of the new Apprenticeship Training Standard, the term “service” was used to refer to tasks and competencies including general service requirements such as preventative maintenance activities as well as relevant maintenance or repair activities needed to make the vehicle perform to expectation. The service requirements are determined as a result of diagnosis and the specific procedures are indicated within the specific skills. This the use of the term “service” to define these activities aligns with approach within the RSOS.

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 the trade of **Motorcycle Technician (310G)** are to be performed according to all applicable jurisdictional legislation and regulations and all health and safety standards must be respected and observed. These include the following:

Standard of Performance

All skills within the **Motorcycle Technician (310G)** Apprenticeship Training Standard are to be performed, as applicable, according to and in compliance with the following:

- *Occupational Health and Safety Legislation and Regulations;*
- *Ministry of Transportation Act, R.S.O. 1990, c. M.36 (ontario.ca)*
- *Motorized Snow Vehicles Act, R.S.O. 1990, c. M.44 (ontario.ca)*
- *Industry best practices;*
- *Company policies and procedures.*
- *Manufacturers' Specifications*

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 Motorcycle Technician is set out in section 90 of Ontario Regulation 875/21 under BOSTA and reads as follows:

The scope of practice for the trade of motorcycle technician includes servicing, repairing, overhauling and inspecting motorcycles and testing them for faults and roadworthiness.

*While the Logbook draws on the scope of practice regulation (Section 90 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 5,520 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 480 hours of in-school training as the duration necessary for an Apprentice to complete the in-school curriculum for this program.

Total Training Hours

6000 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.” The trade of Motorcycle Technician is compulsory.

Eligibility for Apprenticeship Program Completion

The Apprentice must:

- Achieve competency in all mandatory (unshaded) skills as identified in the Logbook- approximately 90% of the competencies. Refer to the Completion Requirements Chart on page 17 for details.
- Complete the in-school training as outlined in the Curriculum Standard.

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 Motorcycle Technician 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

Other Suggested or Required Certification(s) and Training
While an apprentice receives health, safety and occupational specific training and/or certification in a variety of fields during their apprenticeship, it is important to be aware that other occupational health and safety training and certification renewal or updating may also be required during their career before performing new types of work.

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

Motorcycle Technician - Completion Requirements Chart

In order to support foundational competency development and acquisition, Skilled Trades Ontario Motorcycle Technician Industry Experts have established the following minimum Logbook sign-off requirements for the purpose of apprenticeship program completion:

Skill Set Number	Title of Skill Set	Total Number of Skills in Skill Set	Minimum Sign-off Requirements
9765	Perform Safe Work Practices	4	All
9766	Use Tools and Equipment	6	All
9767	Perform Routine Work Practices	7	All
9768	Demonstrate Communication Skills	5	All
9769	Diagnose and Service Chassis	10	8/10
9770	Diagnose and Service Suspension Systems	8	6/8
9771	Diagnose and Service Wheels and Tires	8	6/8
9772	Diagnose and Service Braking Systems	6	All
9773	Diagnose and Service Engines	15	13/15
9774	Diagnose and Service Cooling and Lubrication Systems	4	All
9775	Diagnose and Service Clutches and Primary Drives	12	All
9776	Diagnose and Service Transmissions	6	4/6
9777	Diagnose and Service Final Drive	6	All
9778	Diagnose and Service Electrical Systems	10	All
9779	Diagnose and Service Vehicle Management Systems	5	All
9780	Diagnose and Service Fuel and Air Delivery Systems	8	All
9781	Diagnose and Service Exhaust Systems	2	All

List of Trainers

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

9765 Perform Safe Work Practices

Skill Set Descriptor

Motorcycle technicians carry out their duties following required safety procedures and jurisdictional standards, codes, regulations and legislation.

Skills

9765.01 Comply with acts, regulations and legislation relevant to the trade such as the *Occupational Health and Safety Act, Motive Vehicle Repair Act, Highway Traffic Act* and the *Environmental Protection Act* by:

- reading the applicable legislation, act and or code;
- interpreting and applying the requirements; and
- identifying the personal and legal liabilities of motorcycle technicians, and vehicle owners

according to company policies and procedures and jurisdictional regulations and legislation.

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

◊ **For a compulsory trade, a Trainer must hold a Certificate of Qualification in that trade as per section 10(1) of BOSTA and be registered with Skilled Trades Ontario.**

9765.02 **Maintain safe work environment** by:

- identifying health and safety hazards in the workplace;
- locating safety equipment such as fire extinguishers, eye wash stations, workplace mats and first aid kits;
- confirming that there is adequate ventilation, lighting and a clean environment;
- keeping workstation tidy and clear of obstructions;
- removing potential fire hazards;
- identifying when lifting equipment or colleague assistance is required;
- identifying and communicating general safety issues such as broken or unsafe shop equipment, unsafe environment and test ride conditions; and
- recycling and disposing non-hazardous waste and materials such as tires, brake pads and recyclables (steel, aluminum)

according to workplace policies and procedures, manufacturers' specifications, safety data sheet (SDS) and jurisdictional regulations and legislation.

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

9765.03 **Use personal protective equipment (PPE) and safety equipment** such as eye and hearing protection, dust masks, coveralls, gloves, work boots, motorcycle helmet and riding apparel by:

- determining the types of PPE or safety equipment required for specific tasks;
- inspecting PPE for defective, deficient and damage such as excessively worn safety footwear, cracked safety glasses and expired safety equipment;
- inspecting condition of safety equipment for breaks, signs of wear, tears, cracks, leakage, holes, loose and defective components to confirm safety of the user and extend service life of the equipment;
- confirming fit of PPE and adjusting for optimum protection;
- assessing safety equipment performance and function; and
- cleaning, maintaining and storing PPE and safety equipment in designated areas

according to manufacturers' specifications, workplace policies and procedures and jurisdictional regulations and legislation.

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

9765.04 **Handle workplace hazardous materials** such as battery acid, brake dust, chemicals, and exhaust gases to eliminate, or control and protect individuals from injury and the environment from contamination by:

- identifying type of hazardous materials and effects of exposure;
- accessing and reading Safety Data Sheets (SDS);
- donning PPE as required;
- using all materials solely for their intended purpose;
- using specified handling and storage equipment for explosive and flammable materials;
- labelling materials and containers;
- preventing unauthorized release of hazardous waste to the environment;
- storing hazardous waste into a designated-labelled container and sealing;
- cleaning up spills immediately;
- disposing the hazardous waste with the container based on required timelines;
- recycling and disposing hazardous waste and materials such as oil, coolant, brake fluids, batteries, gasoline; and
- reporting as required

according to manufacturers' specifications, company policies and procedures, jurisdictional regulations and legislation.

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

9765.05 **Comply with jobsite emergency procedures** to minimize injuries to self and others and restore safe working conditions by:

- assessing the situation;
- stabilizing and preparing the injured person;
- identifying the location of first aid supplies and emergency equipment such as fire extinguishers, respirators, stretchers and fire blankets;
- contact “first aider” within organization;
- calling 911 if required;
- cooperating with emergency responders;
- reporting incident to supervisor; and
- documenting (safety and injury reports) as required

according to company policy and procedures, industry safety practices and jurisdictional regulations and legislation.

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

9766 Use Tools and Equipment

Skill Set Descriptor

Motorcycle Technicians use and maintain hand, power and pneumatic tools, diagnostic and shop equipment and precision measuring instruments in the performance of their work. Some of these tools may be shop or shared tools while others are personal tools.

Skills

9766.01 **Use hand tools** such as pliers, wrenches, hammers and screwdrivers by:

- selecting tools as required to the task;
- inspecting tools to identify wear, damage or defects;
- removing, repairing or replacing defective tools;
- cleaning and maintaining tools; and
- organizing tools and storing for efficient access

according to manufacturers' specifications, checklist and assembly procedures, workplace policies and procedures and jurisdictional regulations and legislation.

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

◊ **For a compulsory trade, a Trainer must hold a Certificate of Qualification in that trade as per section 10(1) of BOSTA and be registered with Skilled Trades Ontario.**

9766.02 **Use pneumatic and electric power tools and equipment** such as air impact tool, compressed air gun, grinder, impact driver and riveting equipment by:

- selecting tools and equipment for the task;
- inspecting tools and equipment for wear, damage or defects;
- repairing or replacing defective tools and equipment;
- calibrating;
- operating;
- cleaning, lubricating and maintaining; and
- organizing and storing for efficient access

according to manufacturers' specifications, checklist and assembly procedures, workplace policies and procedures and jurisdictional regulations and legislation.

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

9766.03 **Use diagnostic tools and equipment** such as multimeters, leak-down tester, compression gauges, vacuum gauges, computers, diagnostic software and exhaust gas analyzer by:

- inspecting diagnostic tools and equipment for wear, damage, defects or expiry;
- removing or replacing defective tools and equipment;
- updating software on outdated diagnostic tools;
- reporting defective diagnostic tools to management;
- calibrating diagnostic tools and equipment;
- operating diagnostic tools and equipment;
- organizing and storing diagnostic tools and equipment for efficient access; and
- maintaining diagnostic tools and equipment

according to manufacturers' specifications, checklist and assembly procedures, workplace policies and procedures and jurisdictional regulations and legislation.

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

9766.04 **Use precision measuring instruments** such micrometers, vernier calipers, bore gauges, dial indicators and feeler gauges by:

- inspecting for wear, damage or defects;
- repairing or replacing defective precision measuring instruments;
- reporting defective precision measuring instruments to management;
- calibrating and zeroing;
- operating and interpreting information displayed;
- cleaning and maintaining; and
- organizing and storing for efficiency

according to manufacturers' specifications, checklist and assembly procedures, workplace policies and procedures and jurisdictional regulations and legislation.

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

9766.05 **Use shop equipment and specialty tools** such as hydraulic press, air compressor, alignment bars, ball hone, battery charger, bearing installation tool, bench grinder and wire wheel brush, bleeding equipment, leak tester, brake cylinder hone, cable luber, chain breaker, clutch holder and crank aligning jig by:

- selecting equipment required for the task;
- inspecting shop equipment to identify wear, damage, defects or expiry;
- removing, repairing or replacing defective shop equipment;
- documenting and reporting defective shop equipment to management;
- cleaning, lubricating and maintaining;
- calibrating tools and equipment as required;
- operating shop equipment; and
- organizing shop equipment and storing for efficient access

according to manufacturers' specifications, checklist and assembly procedures, workplace policies and procedures and jurisdictional regulations and legislation.

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

9766.06 **Use lifting benches (pneumatic, hydraulic or electric)** by:

- verifying equipment is in safe working condition;
- inspecting bench to identify wear, damage or defects;
- confirming lift bench is lowered;
- using ramp, remove motorcycle from bench and requesting assistance if required;
- securing with equipment such as wheel clamps, stands, tie downs;
- verifying motorcycle is stabilized to prevent it from tipping or falling;
- using control mechanism to lift the unit to required height;
- cleaning, lubricating and maintaining; and
- documenting and reporting defects to management;

according to manufacturers' specifications, workplace policies and procedures and jurisdictional regulations and legislation.

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

9766.07 **Use heating/cutting tools and equipment** such as grinder, heat gun, oxyacetylene cutting equipment, propane torch and soldering equipment by:

- donning PPE such as gloves, welding shield and apron;
- selecting and tools and equipment relevant for the task;
- inspecting to identify wear, damage and defects;
- removing, repairing or replacing defective tools and equipment;
- reporting defective tools and equipment and state of consumables to management;
- calibrating tools used for task;
- operating the tools and equipment;
- cleaning and maintaining tools and equipment; and
- organizing tools and storing for efficient access

according to manufacturers' specifications, checklist and assembly procedures, workplace policies and procedures and jurisdictional regulations and legislation.

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

9767 Perform Routine Work Practices

Skill Set Descriptor

Motorcycle Technicians perform many tasks on a daily basis which may include maintenance, assembly of new motorcycles, as well as storage and restoration of motorcycles to operating condition after storage. As part of these work practices, they also conduct preliminary diagnosis and preliminary safety inspections to assess general condition of the motorcycle and provide reports and recommendations to supervisors and clients.

Skills

9767.01 **Perform preliminary diagnosis** to verify customers concern by**:**

- conducting visual examination of motorcycle to assess general condition of the motorcycle and its related safety systems such as brakes, steering and suspension;
- determining if road test can be performed;
- road testing;
- isolating problem to a specific area of the motorcycle; and
- identifying repairs required in order to prepare an estimate

according to workplace policies and procedures, manufacturers' specifications and jurisdictional regulations and legislation.

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

◊ **For a compulsory trade, a Trainer must hold a Certificate of Qualification in that trade as per section 10(1) of BOSTA and be registered with Skilled Trades Ontario.**

9767.02 **Perform periodic maintenance** by:

- checking settings including tire pressure, fluid levels, fastener torques, chain and belt tension, cable adjustment and valve lash;
- checking fault code history;
- changing fluids which include oils, coolant, brake fluids, and fuel;
- changing components including filters, spark plugs, tires, brake shoes, brake pads, belts, chains, cables and levers;
- adjusting, cleaning and lubricating components; and
- performing motorcycle test ride to confirm it performs to expectations

according to manufacturers' instructions (maintenance checklist) and specifications, workplace policies and procedures and jurisdictional regulations and legislation.

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

9767.03 **Perform storage procedures** by:

- preparing motorcycle for short-term (seasonal) storage such as adding fuel stabilizer, charging battery, changing oil, fogging internal components and performing visual inspection;
- preparing motorcycle for long-term storage such as draining fuel system, removing battery and applying anti-corrosion consumables;
- applying protective coatings such as lubricants, wax and material specific protectants;
- protecting motorcycle using fitted cover; and
- returning motorcycle into service after storage term

according to manufacturers' specifications, job specifications, workplace policies and procedures and jurisdictional regulations and legislation.

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

9767.04 **Use trade-related consumables** such as glues, sealants, paint, fasteners, sandpaper, electrical supplies, bonding and locking agents, solvents and cleaners**,** by:

- applying consumables so that joined surfaces are fitted, secured and leak resistant; and
- storing and disposing of consumables;

according to workplace policies and procedures, manufacturers' specifications and jurisdictional regulations and legislation.

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

9767.05 **Prepare new motorcycles** by:

- checking uncrated motorcycle for shipping damage;
- assembling motorcycle as required;
- installing and adjusting required components;
- performing pre-delivery inspection (PDI) duties such as filling and checking the fluids, servicing the battery and checking the fastener torque settings based on manufacturers checklist;
- installing accessories;
- performing a motorcycle test ride to confirm operation; and
- detailing the motorcycle for the showroom such as removing protective coatings, wiping, washing and drying

according to manufacturers' specifications, checklist and assembly procedures, workplace policies and procedures and jurisdictional regulations and legislation.

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

9767.06 **Conduct a preliminary safety inspection** by:

- inspecting motorcycle safety components to check for damaged or worn components;
- identifying safety issues such as broken lights and mirrors, tire wear, brake pad wear, oil leaks and tire pressure;
- reporting findings to supervisor; and
- preparing a plan of action

according to workplace policies and procedures, the relevant section in the passenger light duty vehicle inspection standard and jurisdictional regulations and legislation.

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

9768 Demonstrate Communication Skills

Skill Set Descriptor

Motorcycle Technicians require communication skills, both verbal and written modes, to communicate with colleagues and customers, write repair orders and prepare service estimates. With experience, Motorcycle Technicians may be expected to pass along workplace skills through coaching and mentoring apprentices or colleagues**.**

Skills

9768.01 Communicate with supervisors, colleagues, other tradespeople, the public and others by:

- using two-way communication practices including verbal, email, texting and other messaging formats;
- providing instructions and messages with individuals or in a group and confirming that the information was understood by all parties involved in communication;
- using verbal communication techniques such as active listening, questioning, paraphrasing;
- receiving and responding to feedback to confirm that information is understood;
- explaining and providing feedback on the completion of the task as directed; and
- participating in safety and information meetings that can be relayed to the workforce and applied

according to workplace policies and procedures and best practices.

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

◊ **For a compulsory trade, a Trainer must hold a Certificate of Qualification in that trade as per section 10(1) of BOSTA and be registered with Skilled Trades Ontario.**

9768.02 **Perform customer service activities** by:

- answering customer inquiries;
- referring, re-directing customers to others as required;
- explaining vehicle's condition, normal operating parameters, service or repairs required;
- addressing clients' concerns; and
- providing follow-up services

according to company policies and procedures and jurisdictional regulations and legislation**.**

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

9768.03 **Use documentation** to aid in providing estimates and carrying out service and repair operations and procedures by:

- accessing information in technical manuals, data sheets, bulletins for product information, manufacturer-relevant information and repair orders;
- interpreting information;
- documenting diagnostic findings and service requirements;
- providing parts list and recommended repairs in writing; and
- maintaining service records and maintenance logs

according to manufacturers' specifications, checklist and assembly procedures, workplace policies and procedures and jurisdictional regulations and legislation.

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

9768.04 **Prepare estimates** by:

- identifying requirements based on initial diagnosis;
- calculating cost of material, labour and equipment;
- writing quote and providing to customer;
- reviewing quote with client;
- obtaining customer authorization to proceed with additional diagnosis, inspection and repairs; and
- documenting

according to workplace policies and procedures and jurisdictional regulations and legislation.

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

9768.05 **Mentor apprentices or colleagues** to support their learning by:

- creating an open and supportive climate for discussion;
- identifying and communicating learning objective(s);
- relating theoretical information/lesson to the job tasks;
- demonstrating performance of a skill;
- setting up conditions to enable the mentee to practice the skill;
- assessing apprentice or colleague's ability to perform tasks with increasing independence;
- providing feedback; and
- assisting apprentices/colleague in pursuing technical training opportunities

according to best practices and company policies and procedures.

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

9769 Diagnose and Service Chassis

Skill Set Descriptor

Motorcycle Technicians diagnose chassis components and suspension systems to detect faults such as misalignment, damage or identify incorrect settings on suspension systems. Based on the diagnosis, Motorcycle Technicians service the components which involves maintaining, adjusting or replacing components. They may repair minor damages to components; however, the frame is a critical component and as such, it is generally replaced if damaged.

Skills

9769.01 **Diagnose frame** by:

- conducting a sensory inspection of frame identify faults such as damage, misalignment (bent), cracks, corrosion and manufacturer defects;
- assessing component conditions such as bushings, bearings and brackets;
- measuring frame using tools and equipment to identify trueness and straightness of frame;
- interpreting faults to determine causes of failure; and
- determining service requirements (repairing or replacing components)

according to manufacturers' specifications, checklist and assembly procedures, workplace policies and procedure and jurisdictional regulations and legislation.

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

◊ **For a compulsory trade, a Trainer must hold a Certificate of Qualification in that trade as per section 10(1) of BOSTA and be registered with Skilled Trades Ontario.**

9769.02 **Diagnose steering head** by:

- listening for abnormal noises, feeling for rough movement or looseness and observing any unusual conditions to identify faults such as damaged, notched, loose and worn bearings;
- measuring bearing pre-load using tools such as pull gauges, torque wrenches, and hand tools;
- testing steering stops and steering lock for function and defects such as binding, catching, or excessive steering angle; and
- determining service requirements (lubricating, adjusting or replacing components)

according to manufacturers' specifications, checklist and assembly procedures, workplace policies and procedures and jurisdictional regulations and legislation.

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

9769.03 **Diagnose steering systems for three-wheel motorcycles** by:

- conducting visual inspecting of steering system components to assess conditions of components (bushings, bearings and brackets);
- performing sensory inspections such as listening for abnormal noises, feeling for rough movement or looseness to identify any unusual conditions;
- using tools such as straightedge, v-blocks, dial indicator, diagnostic software and inclinometer;
- checking for alignment using alignment lasers;
- interpreting faults to determine causes of failure such as loose, worn, bent and power steering malfunction; and
- determining service requirement such as lubricating, adjusting, updating software or repairing and replacing components

according to manufacturers' specifications, checklist and assembly procedures, workplace policies and procedures and regulations and legislation.

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

9769.04 **Diagnose handlebars, footrests and controls** by:

- performing sensory inspection to determine damage such as bent and cracked components and controls and broken cables;
- measuring free play on control cables using measuring equipment such as vernier calipers;
- checking for alignment; and
- determining service requirements such as replacing components or lubrication of cables and pivot points

according to manufacturers' specifications, workplace policies and procedures and jurisdictional regulations and legislation.

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

9769.05 **Diagnose chassis ancillary and accessory components** by:

- performing visual inspections to detect faults such as worn pivots on stands, bent engine guards and ripped saddlebags and observing any unusual conditions of components such as leakage, binding, rust, seizure, wear, or misalignment;
- performing sensory inspections, feeling for rough movement or looseness, listening for abnormal noises such as grinding or squeaking and
- inspecting steering dampers for faults such as excessive play, or loose mount;
- inspecting windshield for faults (cracks, loose and bent mounts);
- identifying causes of failure such as normal wear, physical damage, corrosion, improper care and modifications; and
- determining service requirements such as lubrication of pivoting points

according to manufacturers' specifications, workplace policies and procedures and jurisdictional regulations and legislation.

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

9769.06 **Service frames** by:

- removing components to expose frame and access damaged area;
- performing minor bracket and mount repairs as required;
- removing and replacing components such as bearings, races, bushings and seals;
- lubricating components and verifying smooth operation; and
- replacing frame if required

according to diagnostic results, manufacturers' specifications, workplace practice and procedures and jurisdictional regulations and legislation.

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

9769.07 **Service steering heads** by:

- using tools such as dial indicator, spring scale and torque wrench;
- disassembling peripheral components such as wheels, fenders, forks, fairings and handlebars to gain access to steering head;
- identifying damaged triple clamps;
- repairing or replacing components then reassembling peripheral components;
- repairing or replacing steering head components such as bearings, pivot shaft, seals and triple clamp;
- lubricating steering head components;
- adjusting steering head;
- resetting steering damper using diagnostic software; and
- performing a road test to confirm motorcycle operates to expectations

according to diagnostic results, manufacturers' specifications, workplace practice and procedures and jurisdictional regulations and legislation.

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

9769.08 **Service steering systems for three-wheel motorcycles** by:

- disassembling peripheral components such as wheels, fenders, forks and fairings to gain access;
- repairing or replacing steering system components such as tie rod, tie rod end, pitman arm, steering post, knuckle and power steering unit;
- reassembling steering system components after service is performed;
- adjusting alignment of wheels, caster, camber and toe of steering using alignment lasers and inclinometer;
- resetting steering to zero using diagnostic software; and
- performing a road test to confirm it operates to expectation

according to diagnostic results, manufacturers' specifications, workplace policy and procedures and jurisdictional regulations and legislation.

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

9769.09 **Service handlebars, footrests and controls** by:

- removing handlebars, footrests and controls as required;
- repairing minor damage such as straightening footrest, mounts and controls; or replacing if required;
- reinstalling handlebars, footrests and controls and replacing if required;
- adjusting, cleaning and lubricating cables and pivot points; and
- performing a road test to verify correct operation of controls

according to diagnostic results, manufacturers' specifications, workplace policy and procedures and jurisdictional regulations and legislation.

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

9769.10 **Service chassis ancillary and accessory components** by:

- repairing ancillary component such as engine guards, centre/side stands and stand spools;
- repairing accessory components such as saddlebags, foot pegs, windshields and back rests;
- repairing, cleaning and securing windshield;
- recalibrating and confirming range of windshield movement;
- removing and replacing as required; and
- verifying operation

according to diagnostic results, manufacturers' specifications, workplace policy and procedures and jurisdictional regulations and legislation.

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

9770 Diagnose and Service Suspension Systems

Skill Set Descriptor

Motorcycle Technicians diagnose suspension systems to detect faults such as wear, misalignment, damage, defects and incorrect settings. To service suspension systems, Motorcycle Technicians clean components, adjust, replace and rebuild components.

Skills

9770.01 Diagnose front suspension components by:

- performing visual inspection to identify failures such as leaking seals, worn linkage bearings and/or bushings or damaged fork tubes (bent or pitted);
- performing a motorcycle road test to identify condition;
- using tools and equipment such as straightedges, pressure gauges, dial gauges, hand tools, v-blocks and graduated cylinder or diagnostic software to evaluate component conditions (bent, seized, binding);
- interpreting diagnostic results to identify causes of failure such as broken or worn bushings, torn or damaged seals or improper maintenance; and
- determining servicing requirements such as replacing fork seals and oil, adjusting damping rate or replacing springs

according to manufacturers' specifications, workplace policy and procedures and jurisdictional regulations and legislation.

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

◊ **For a compulsory trade, a Trainer must hold a Certificate of Qualification in that trade as per section 10(1) of BOSTA and be registered with Skilled Trades Ontario.**

9770.02 **Diagnose front suspension components on three-wheel motorcycles** by:

- identifying diagnostic procedure based on defects;
- performing visual and sensory inspection to identify failures such as leaking seals, wear, excessive play, bent and noise;
- performing a motorcycle road test to assess condition;
- using tools and equipment (straightedges, hand tools, tape measure) and manufacturers' specialty tools such as diagnostic software to evaluate component conditions (bent, seized, binding, loose);
- interpreting diagnostic results to determine causes of failure (collision, wear, improper maintenance); and
- identifying components requiring repair or replacement

according to manufacturers' specifications, workplace policy and procedures and jurisdictional regulations and legislation.

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

9770.03 **Diagnose rear suspension components** by:

- performing visual and sensory inspection to identify failures such as worn linkage bearings, damaged springs, leaking seals, or wear;
- using tools and equipment such as a nitrogen recharging unit, straightedge and dial gauges to test sag, pressure and components;
- performing motorcycle road test to assess condition;
- interpreting diagnostic results to identify causes of failure (broken or worn bearings or bushings, leaking seals); and
- determining service requirements

according to manufacturers' specifications, workplace policy and procedures and jurisdictional regulations and legislation.

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

9770.04 **Diagnose swing arm** by:

- performing sensory inspection to identify worn bearings and bushings, physical damage or missing hardware;
- using tools and equipment such as torque wrench and measuring equipment to test for causes of malfunction or failure;
- interpreting diagnostic results to identify causes (broken or worn bearings, or misalignment of swing arm); and
- determining service requirements such as replacing swing arm or components (bearings/bushings, axle and chain guard)

according to manufacturers' specifications, workplace policy and procedures and jurisdictional regulations and legislation.

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

9770.05 **Service front suspension components** by:

- noting settings prior to disassemble;
- removing and disassembling components such as inner and outer fork tube and fork spring;
- cleaning damaged and worn components such as bushing, cartridges, spacers, and springs to assess condition;
- replacing components as required (bushings, seals and fluid);
- reinstalling front suspension components;
- adjusting spring pre-load (sag) and damping using tape measure to tailor suspension performance to rider's specifications;
- calibrating if required, such as on vehicles with electronic suspensions; and
- performing a road test to confirm it operates to expectation

according to diagnostic results, manufacturers' procedures workplace policy and procedures and jurisdictional regulations and legislation.

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

9770.06 **Service front suspension components on three-wheel motorcycles** by:

- disassembling peripheral components such as fairings, wheels and brakes;
- removing front suspension components such as bushings, springs, shocks, knuckle, ball joint, wheel bearing, control arm, stabilizer link, sway bar and seals;
- cleaning components such as bushing, ball joints and springs to assess condition;
- replacing components as required;
- reinstalling front suspension and peripheral components;
- adjusting suspension settings to rider's specifications; and
- performing a road test to confirm it operates to expectation

according to diagnostic results, manufacturers' procedures, workplace policy and procedures and jurisdictional regulations and legislation.

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

9770.07 **Service rear suspension components** by**:**

- removing rear suspension peripheral components such as wheel, brake, fenders and cables;
- disassembling rear suspension system components such as bushings, shafts, swing arms, linkages, shocks, bearings and springs;
- cleaning components to assess condition;
- rebuilding suspension unit and replacing components as required;
- lubricating linkage pivots;
- reassembling rear suspension and peripheral components;
- adjusting settings;
- calibrating if required such as on vehicles with electronic suspensions; and
- performing a road test to confirm it operates to expectation

according to diagnostic results, manufacturers' procedures workplace policy and procedures and jurisdictional regulations and legislation.

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

9770.08 **Service swing arms** by:

- disassembling peripheral components such as wheel, brake, fenders and cables;
- removing swing arms and components (bearings, bushings and shafts);
- cleaning components to assess condition;
- replacing and lubricating components as required;
- reinstalling and aligning swing arm pivots; and
- verifying operation

according to diagnostic results, manufacturers' procedures workplace policy and procedures and jurisdictional regulations and legislation.

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

9771 Diagnose and Service Wheels and Tires

Skill Set Descriptor

Motorcycle Technicians diagnose wheels and tires to identify conditions and defects. They service tires and wheels by removing tire and tire components, balancing and replacing wheel components and tires.

Skills

9771.01 Diagnose tires by:

- visually inspecting tires to identify conditions such as installation errors, uneven wear, cracks, delamination, bead sealing, under/over inflation, separated belts, out-of-round and punctures;
- using precision measuring equipment such as tread depth gauge and air pressure gauge;
- performing checks and measurements to identify tread depth, tire pressure, balance and tire manufacturer date code;
- reviewing prior service record;
- performing a motorcycle road test;
- using results of inspection, service records and testing to identify cause of failure such as overloading, over/under inflating and heavy torqueing/braking; and
- determining service requirements (reinstalling, replacing tire or tube or balancing tire)

according to manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

◊ **For a compulsory trade, a Trainer must hold a Certificate of Qualification in that trade as per section 10(1) of BOSTA and be registered with Skilled Trades Ontario.**

9771.02 **Diagnose spoked wheels** by:

- performing a visual inspection of wheel components such as rims, hubs, bearings, spokes, spoke nipples, axles, rim locks, pressure sensors, reluctor, speedometer drive, cush drive and balancing weights;
- identifying physical condition of components such as worn bearings, cracked or deformed rims, damaged hubs, tire valve, missing and broken spokes;
- using measuring tools and equipment such as dial gauge, truing stand, spoke torque wrench to determine radial and lateral run out and end play;
- reviewing service records;
- performing a motorcycle road test to assess ride quality (stability, vibration, noise and comfort);
- using results of inspection, service records and testing to identify causes of failure such as impact, lack of maintenance, stress, or wear; and
- determining service requirements for components (replacement or repair)

according to manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9771.03 **Diagnose one-piece wheels** to determine conditions and requirements for service by:

- performing visual inspection of components such as bearings, axles, pressure sensors, reluctor, speedometer drive, cush drive and balancing weights to assess condition;
- identifying physical condition of components such as worn bearings, cracked, blistered and deformed rims, damaged hub, damaged tire valve, chipped or cracked paint;
- using measuring tools and equipment such as dial gauge and truing stand to determine radial and lateral run out and end play;
- reviewing service records;
- performing a motorcycle road test to assess ride quality (stability, vibration, noise and comfort);
- using results of inspection, service records and testing to identify causes of failure such as impact, lack of maintenance, stress, wear and corrosion; and
- determining service requirements for components (replacement or repair)

according to manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9771.04 **Diagnose multi-piece wheels** to determine condition and service requirements by:

- inspecting condition of components such as bearings, fasteners, rims, hubs, seals, O-rings, valves, sensors (speed /pressure) speedometer drive and cush drive;
- identifying conditions such as worn bearings, cracked, blistered and deformed rims, damaged hub, damaged tire valve, chipped or cracked paint;
- using measuring tools and equipment such as dial gauge, truing stand to determine radial and lateral run out, and end play;
- reviewing prior service records;
- performing a motorcycle road test to assess ride quality (stability, vibration, noise, comfort);
- using results of inspection, service records and testing to identify causes of failure (deterioration of O-ring, impact, lack of maintenance and stress); and
- determining service requirements

according to manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9771.05 **Service tires and components** such as tubes, rim band and rim locks by:

- removing tire and tire components;
- repairing as required;
- selecting tire if replacing based on requirements such as type (bias ply, bias belted, radial, tube or tubeless) and motorcycle speed rating, load rating, tire size and recommended pressure;
- reinstalling or replacing tire and tire components, confirming direction marking; and
- balancing tires as required

according to diagnostic results, manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9771.06 **Service spoked wheels and wheel components** such as rims, hubs, bearings, spokes, spoke nipples, axles, rim locks, pressure sensors, reluctor, speedometer drive, cush drive, balancing weights by:

- removing wheel and wheel components;
- repairing or replacing wheel components;
- adjusting lateral and radial run-out and offset;
- replacing or reinstalling wheel; and
- verifying operation

according to diagnostic results, manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9771.07 **Service one-piece wheels and components** such as bearings, spacers, speedometer drive, cush drive, pressure sensors, reluctor, balancing weights and axles by:

- removing wheel and wheel components;
- lubricating and aligning as required;
- repairing or replacing wheel components to restore tolerance;
- replacing or reinstalling wheel; and
- verifying operation

according to diagnostic results, manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9771.08 **Service multi-piece wheels and components** such as bearings, fasteners, rims, hubs, seals, O-rings, valve, pressure sensors, reluctor, speedometer drive, cush drive and axles by:

- removing wheel and wheel components for access;
- lubricating and aligning as required;
- repairing or replacing wheel components to restore tolerance;
- replacing or reinstalling wheel; and
- inspecting rim to verify structural integrity

according to diagnostic results, manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9772 Diagnose and Service Braking Systems

Skill Set Descriptor

Motorcycle Technicians diagnose braking systems to confirm functioning of braking components. Motorcycle Technicians service these systems by flushing and bleeding the system and replacing or reconditioning components.

Skills

9772.01 Diagnose hydraulic braking systems by:

- performing a visual inspection of hydraulic brake system components such as master cylinders, actuating lever/pedal, hoses, lines, calipers, wheel cylinder, linkages, springs, rotors, drums, linings, sensors, switches and brake fluid to determine condition;
- using tools and equipment such as dial indicator, caliper, brake fluid bleeder;
- performing checks and measurements such as run-out, thickness and diameter;
- inspecting levers and pivots to confirm freedom of movement and correct adjustment;
- using results of sensory inspections, checks, measurements and prior service records to identify causes of failure such as contaminants, wear, leakage and seizing; and
- determining service requirements (replacing or repairing component)

according to manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

◊ **For a compulsory trade, a Trainer must hold a Certificate of Qualification in that trade as per section 10(1) of BOSTA and be registered with Skilled Trades Ontario.**

9772.02 **Diagnose mechanical braking systems** by:

- performing sensory inspection on mechanical brake system components such as actuating lever/pedal, calipers, linkages, springs, rotors, drums, linings and cables to determine condition;
- performing checks and measurements using tools and equipment such as dial indicator, vernier caliper and hand tools to identify run-out and thickness and diameter;
- inspecting levers, pivots and cables to confirm freedom of movement;
- using results of inspections, checks, measurements and prior service records to identify causes of failure such as contaminants, wear or seizing; and
- determining service requirements (replace component, repair or adjust)

according to manufacturers' specifications, workplace practices and procedures, and jurisdictional regulations and legislation.

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

9772.03 **Diagnose braking control systems** by:

- performing sensory inspections on braking control system components such as pumps, electronic control unit (ECU), sensors, valves and wiring to assess condition;
- using diagnostic tools such as a scan tool, multimeter, feeler gauge and peak volt adaptor or brake fluid testers to perform checks and measurements (system function check, air gap check, resistance, continuity and fluid condition) to further assess the condition of components;
- interpreting results of inspections, checks and measurements and service records to identify causes of failure such as contamination, corrosion or damage; and
- determining service requirements (replacement of components or repair)

according to manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9772.04 **Service hydraulic braking systems and components** by:

- removing components such as master cylinders, actuating lever/pedal, hoses, lines, brake fluid, calipers, wheel cylinder, linkages, springs, rotors, drums, linings, sensors and switches;
- using tools and equipment such as vacuum pump, diagnostic software and hand tools;
- repairing or reconditioning components;
- reinstalling or replacing hydraulic braking system components;
- flushing and bleeding the systems to remove contaminants and eliminating air; and
- verifying operation

according to diagnostic results, manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9772.05 **Service mechanical braking systems** by:

- removing mechanical braking system components such as actuating lever/pedal, calipers, linkages, springs, rotors, drums, linings, and cables;
- using cable luber and hand tools;
- repairing or reconditioning components and reinstalling;
- replacing mechanical braking system components as required; and
- verifying cable adjustments and operation

according to diagnostic results, to manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9772.06 **Service braking control systems** by:

- removing braking control system components such as pumps, ECU, sensors, reluctor, valves and wiring;
- using tools and equipment such as diagnostic software, scan tool, multimeter and peak volt adaptor; and
- repairing or replacing braking control system components; and
- reinstalling; and
- verifying operation

according to diagnostic results, manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9773 Diagnose and Service Engines

Skill Set Descriptor

Motorcycle Technicians require a comprehensive knowledge of the operation of two-stroke and four-stroke engines to diagnose failures. Servicing procedures for these engines include disassembly, reassembly, cleaning, reconditioning and replacing components.

Skills

9773.01 Diagnose two-stroke cylinder heads by:

- performing sensory inspections to listen for noises, feel for vibrations, and observing for wear and damage;
- removing components to access cylinder head;
- using measuring tools such as surface plate, dyes, pressure and bore gauge to determine failure or fault conditions such as cracking, warpage, leaks, carbon build-up, broken fasteners, failed gaskets, foreign object damage;
- interpreting the diagnostic results to identify cause of failure; and
- determining service requirements such as resurfacing or replacement

according to manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

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9773.02 **Diagnose four-stroke cylinder heads** by:

- performing sensory inspections to listen for noises, feel for vibrations, and observe wear and damage;
- removing components to access cylinder head;
- using measuring tools such as surface plate, dyes, pressure and bore gauge;
- evaluating heads for failure conditions such as weak valve spring, warpage, valve guide and seat wear, valve sealing and foreign object damage;
- interpreting the diagnostic results to identify the causes of wear or failure; and
- determining service requirements such as resurfacing or replacement

according to manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9773.03 **Diagnose valve systems on two-stroke engine** such as intake reed, exhaust power, rotary and decompression valves by:

- performing sensory inspections to listen for noises, feel for vibrations, and observe wear and damage;
- using measuring tools such as surface plate, dyes, pressure and bore gauge to assess for fault and failure conditions (cracking, warpage, leaks, carbon build-up, broken fasteners, failed gaskets and foreign object damage);
- interpreting the diagnostic results to identify the causes of wear or failure; and
- determining service requirements such as cleaning or replacing

according to manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9773.04 **Diagnose valve train on four-stroke engine** by:

- performing sensory inspections, listening for noises, feeling for vibrations, and observing for wear and damage;
- checking valve train to confirm function such as valve timing, valve lash, cam lobe wear;
- using measuring tools such as thickness gauges, dyes, pressure and bore gauge;
- disassembling valve train to evaluate failure conditions such as wear or failure of tensioners, valve stems and lifters;
- interpreting the diagnostic results to identify the causes of wear such as insufficient lubricant, overheating, over-rev; and
- determining service requirements such as replacing tensioner, chain, guide, valve and/or lifter based on cause

according to manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9773.05 Diagnose cylinders and pistons by:

- performing sensory inspections looking for excessive smoke from exhaust, listening for noises, feeling for vibrations, observing for excessive wear and lack of power;
- using measuring tools such as thickness gauge, pressure (leak down tester) and bore gauge as required to identify condition of the system;
- checking piston, piston rings and cylinder to verify integrity of sealing, faults and failure conditions such as ring wear, piston cracking and detonation;
- disassembling cylinder and piston;
- measuring piston and cylinder wall clearance;
- interpreting results of inspections and measurement to identify the causes of wear or failures such as insufficient air filtration and insufficient lubricant or overheating; and
- determining service requirements (bore, hone, re-plate or replace)

according to manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9773.06 **Diagnose crankshaft assemblies** by:

- performing sensory inspections to listen for noises and feeling for vibrations;
- using measuring and diagnostic tools such as v-blocks, micrometers, plastigage, dial indicators, stethoscopes and feeler gauge to check crankshaft assembly;
- verifying fault and failure conditions such as bearing wear, run-out, twisting and out-of-phase;
- interpreting diagnostic results to identify causes of abnormal wear or failure such as insufficient lubricant, over-rev, overheating and detonation; and
- determining service requirements such as rebuilding or replacing

according to manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9773.07 **Diagnose counterbalance assemblies** by:

- performing sensory inspections to listen for noises, feeling for vibrations to identify issue and conditions of counterbalance assemblies;
- using measuring and diagnostic tools such as stethoscopes, v-blocks, micrometers and plastigage to check counterbalance assemblies;
- assessing failure conditions such as run-out, out-of-time and excessive bearing clearance;
- interpreting diagnostic results to identify causes of wear or failure such as insufficient lubricant, chain wear or chain tension; and
- determining service requirements (re-time, replace or adjust)

according to manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9773.08 **Diagnose engine cases** by:

- performing sensory inspections to listen for noises, feeling for vibrations, observing for oil leaks, cracks and loose or broken fasteners;
- using measuring and diagnostic tools such as surface plate, dyes, sealing plugs and gauges (pressure, bore, vacuum);
- checking engine cases and crankcase sealing for failure conditions such as warping, cracking, structural integrity and excessive bearing clearance;
- interpreting results of inspection and diagnostic testing to identify causes of failure such as insufficient lubricant, overheating or incorrect fastener torque; and
- determining service requirements (reconditioning or replacement of engine case)

according to manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9773.09 **Service cylinder heads on two-stroke and four-stroke engines** by:

- using measuring tools such as surface plate and straightedge;
- replacing cylinder head components such as valves, guides, decompressor and seals;
- performing decarbonisation to remove carbon deposits on the cylinder head using equipment such as wire brush, abrasive pad, glass bead cleaners and hydraulic presses;
- setting tolerances;
- verifying returned components have been machined accurately;
- repairing or replacing components;
- replacing cylinder head using tools such as torque wrenches, socket set and pullers; and
- performing a functional test to confirm operation

according to diagnostic results, manufacturers' specifications, assembly procedures and workplace policies and procedures and jurisdictional regulations and legislation.

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

9773.10 **Service valve systems on two-stroke engine** by:

- cleaning valve assemblies using equipment such as wire brush, abrasive pad, and glass bead cleaners;
- replacing damaged or worn parts using tools such as pullers and hand tools;
- setting tolerances; and
- performing a functional test to confirm operation

according to diagnostic results, manufacturers' specifications, assembly procedures and workplace policies and procedures and jurisdictional regulations and legislation.

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

9773.11 **Service valve train on four-stroke engine** by:

- using equipment wire brush, abrasive pad and glass bead cleaners;
- cleaning valve train components such as valves, gears, cams, rockers, chains, belts and springs;
- checking reconditioned or replacement components for defects;
- replacing valve train components using tools such as valve grinders, valve and seat cutters, spring compressors and torque wrenches;
- setting tolerances; and
- performing a functional test to confirm operation

according to diagnostic results, manufacturers' specifications, checklist and assembly procedures, workplace policies and procedures and jurisdictional regulations and legislation.

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

9773.12 **Service cylinders and pistons** by:

- using measuring tools such as micrometer, bore gauges and feeler gauges to determine tolerances and confirm fit of piston, cylinder or rings;
- using specialty tools such as wrist pin puller and ring compressors; and
- replacing cylinder and piston components such as wrist pins, circlips and rings

according to diagnostic results, manufacturers' specifications, checklist and assembly procedures and workplace policies and procedures and jurisdictional regulations and legislation.

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

9773.13 **Service crankshaft assemblies** such as roller, plain bearing, single and multi-cylinder, forged and pressed by:

- checking reconditioned or replacement crankshaft assemblies for defects;
- using tools and equipment such as pullers, hydraulic press, bore gauges, feeler gauges and plastigage;
- replacing crankshaft assemblies and components; and
- setting tolerances

according to diagnostic results, manufacturers' specifications, checklist and assembly procedures, workplace policies and procedures and jurisdictional regulations and legislation.

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

9773.14 **Service counterbalance assemblies** by:

- using tools such as pullers, bore gauges, feeler gauges and plastigage;
- replacing counterbalance shafts and bearings; and
- setting tolerances and timing

according to diagnostic results, manufacturers' specifications, checklist and assembly procedures, workplace policies and procedure and jurisdictional regulations and legislation.

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

9773.15 **Service engine cases** by:

- clean engine case using equipment such as wire brush, abrasive pad and cleaning chemicals to prepare for reassembling;
- using tools such as pullers and drivers, heat gun;
- replacing engine cases;
- replacing bearings and seals;
- torqueing fasteners (bolts and studs);
- reassembling; and
- verifying operation

according to diagnostic results, manufacturers' specifications, workplace policies and procedures and jurisdictional regulations and legislation.

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

9774 Diagnose and Service Cooling and Lubrication Systems

Skill Set Descriptor

Motorcycle Technicians diagnose cooling and lubrication systems using specialized measuring and diagnostic tools to determine the causes of failure. For cooling systems, these failures may include insufficient air or coolant flow, incorrect coolant mix, inoperable fan or failed thermostat. Servicing procedures for cooling systems includes flushing and replacing coolant. For servicing lubrication systems, Motorcycle Technicians clean and replace components (filters, oil, pump, heat exchanger) and check flow rate and pressure.

Skills

9774.01 **Diagnose cooling systems** such as air, liquid-cooled (oil, coolant) by:

- performing sensory inspections to listen for noises, fan operation and observe coolant leaks;
- using measuring and diagnostic tools (cooling system pressure gauges, infrared thermometer and refractometer);
- checking cooling system for failure conditions such as improper coolant, damaged components;
- interpreting diagnostic results to identify causes of failure such as insufficient air or coolant flow, incorrect coolant mix, inoperable fan or failed thermostat; and
- determining service requirements

according to manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

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9774.02 **Diagnose lubrication systems** by:

- performing sensory inspections to listen for noises, feeling for vibrations, observing for oil delivery leaks or use of incorrect oil type and contaminants;
- using an oil pressure gauge to check lubrication system for failure conditions such as leaks or damaged components;
- checking integrity of delivery pipes and jets for adequate flow;
- checking adjustment of two-stroke engine oil pump for volume using tools such as feeler gauges, micrometers, graduated cylinders and dyes;
- checking oil pump for wear or failure; and
- determining service requirements

according to manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9774.03 **Service cooling systems** such as air and liquid-cooled (oil, coolant) by:

- mixing coolant;
- flushing, refilling coolant or bleeding cooling system using equipment such as coolant recovery system and flushing system;
- using tools such as pressure testers, drivers, funnels and hoses; and
- cleaning, repairing or replacing cooling system components such as pumps, lines, seals, radiators, cooling fins, thermostats, fans, ducts, shrouds and heat exchangers

according to diagnostic results, manufacturers' specifications, workplace policies and procedures and jurisdictional regulations and legislation.

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

9774.04 **Service lubrication systems** by:

- cleaning components such as check valves, pipes, jets, oil galleries, pumps, gears, rotors, bearings and chain;
- replacing components using tools such, torque wrenches and feeler gauges;
- verifying oil flow and pressure; and
- bleeding air, adjusting oil-injector pump and replacing fluids

according to diagnostic results, manufacturers' specifications, workplace policies and procedures and jurisdictional regulations and legislation.

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

9775 Diagnose and Service Clutches and Primary Drives

Skill Set Descriptor

Motorcycle Technicians diagnose clutches and primary drives to determine irregularities in the transfer of power from the engine crankshaft through the transmission to the final drive. Service procedures include cleaning and adjusting of components, removing, repairing or replacing components and replacing fluids.

Skills

9775.01 Diagnose primary drive and driven gears by:

- performing sensory inspections (listening for noises, feeling for vibrations, looking for contamination in oil) to identify defects, faults and wear;
- using tools and equipment (borescopes, dial gauges and stethoscope) to inspect primary drive and driven gears;
- examining components to assess conditions such as cracks, pits, or burrs
- interpreting diagnostic results to identify causes of failure such as inadequate lubrication, excessive play and contributory damage from related or unrelated component failure; and
- determining service requirements

according to manufacturers' specifications, workplace policies and procedures and jurisdictional regulations and legislation.

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

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9775.02 **Diagnose primary drive chain and sprockets** by:

- performing sensory inspections (listening for noises, feeling for vibrations, or excessive movement/free play, looking for contamination in oil) to identify defects, faults and wear;
- checking measurements using tools such as vernier caliper, lasers, ruler, straight edge;
- assessing components for conditions such as sprocket wear, chain wear, tensioner defects and misalignment;
- interpreting results to identify causes of failure such as lack of lubrication, improper tension; and
- determining service requirements

according to manufacturers' specifications, workplace policies and procedures and jurisdictional regulations and legislation.

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

9775.03 **Diagnose primary drive belts and pulleys** by:

- performing sensory inspections such as listening for noises, feeling for vibrations, looking for damaged belts and pulleys and oil contamination to identify faults and wear;
- using tools such as vernier caliper, belt tension gauge, straight edge to measure for excessive free play, worn pulleys and pulley misalignment;
- removing belt to check for separation or cracking;
- interpreting results to identify causes of failure; and
- determining service requirements

according to manufacturers' specifications, workplace policies and procedures and jurisdictional regulations and legislation.

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

9775.04 **Diagnose manual clutches** by:

- performing sensory inspection such as listening for noises, feeling for vibrations, smelling for burnt components, observing for oil contamination worn parts, defects, damage and wear;
- performing a test ride to assess clutch operation (slippage, dragging and shuddering);
- disassembling clutch systems using tools such as wrenches, drivers, sockets and speciality tools (clutch hub holder);
- checking and measuring friction plate (thickness, overheating, tab width), steel plates (overheating, warping), coil and diaphragm springs (free length, tension), using tools and equipment such as feeler gauges, surface plate, vernier calipers;
- assessing clutch component conditions;
- interpreting results to identify causes of failure; and
- determining service requirements

according to manufacturers' specifications, workplace policies and procedures and jurisdictional regulations and legislation.

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

9775.05 **Diagnose automatic clutches** by:

- performing sensory inspection such as listening for noises, feeling for vibrations, looking for oil contamination, smelling for burnt components and observing for worn parts to identify defects, faults and wear;
- performing a motorcycle road test to assess for faulty clutch operation (slippage, dragging, shuddering, shifting or improper engagement (RPM);
- disassembling clutch systems using tools such as wrenches, drivers, sockets and speciality tools (clutch hub holder);
- performing checks and measurements of friction plate (thickness, overheating, tab width), steel plates (overheating, warping), drum diameter and spring free length/condition, to assess clutch component conditions using tools and equipment such as feeler gauges, surface plate, vernier calipers;
- interpreting results to identify causes of failure; and
- determining service requirements

according to manufacturers' specifications, workplace policies and procedures and jurisdictional regulations and legislation.

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

9775.06 **Diagnose kick start** by:

- performing a visual inspection of kick start components such as shaft, bushings, gears, ratcheting gears, ball and spring, springs, levers, fasteners and ratchet stop, for operation, abnormalities and wear;
- performing a function test to check kick start systems for abnormal operations such as binding, spline wear, locking and engagement issues;
- disassembling the kick start components using hand tools;
- assessing components to identify causes of failure (damage or wear; lack of lubrication and defective components); and
- determining service requirements

according to manufacturers' specifications, workplace policies and procedures and jurisdictional regulations and legislation.

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

9775.07 **Service primary drive and driven gears** by:

- accessing primary drive and driven gears;
- removing and replacing defective components such as drive gears, driven gears, spring-loaded backlash gear and clutch baskets;
- reassembling; and
- verifying operation

according to diagnostic results, manufacturers' specifications, workplace policies and procedures and jurisdictional regulations and legislation.

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

9775.08 **Service primary drive chain and sprockets** by:

- accessing primary chain drive systems components such as chains, tensioners (slider), sprockets and clutch basket;
- adjusting chains;
- removing, repairing or replacing primary chain drive systems components;
- adjusting alignment of primary drive chain and sprockets;
- removing, repairing or replacing components such as O-rings and gaskets
- reassembling; and
- verifying operation

according to diagnostic results, manufacturers' specifications, workplace policies and procedures and jurisdictional regulations and legislation.

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

9775.09 **Service primary drive belts and pulleys** by:

- accessing primary drive belts and pulleys;
- maintaining primary drive belts and pulleys;
- disassembling, repairing or replacing primary drive belts and pulleys;
- adjusting alignment of primary drive belts and pulleys;
- reassembling; and
- verifying operation

according to diagnostic results, manufacturers' specifications, workplace policies and procedures and jurisdictional regulations and legislation.

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

9775.10 **Service manual clutches** by:

- accessing clutch components such as springs, fibre and metal plates, pressure plate, hub, basket, release mechanisms and actuators;
- removing, inspecting, measuring, and reinstalling or replacing clutch components;
- adjusting clutch components;
- replacing hydraulic fluids and lubricating clutch release mechanisms;
- cleaning clutch and oil delivery components;
- reassembling; and
- verifying operation

according to diagnostic results, manufacturers' specifications, workplace policies and procedures and jurisdictional regulations and legislation.

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

9775.11 **Service automatic clutches** by:

- accessing automatic clutch system components such as friction shoes, drums, springs and weights;
- removing, inspecting, measuring, and replacing or reinstalling automatic clutch system components;
- adjusting automatic clutch system components;
- cleaning automatic clutch system components;
- reassembling; and
- verifying operation

according to diagnostic results, manufacturers' specifications, workplace policies and procedures and jurisdictional regulations and legislation.

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

9775.12 **Service kick start** by:

- accessing kick start components;
- removing, inspecting, measuring and replacing or reinstalling kick start components such as shaft, bushings, gears, ratcheting gears, ball and spring, springs, levers, fasteners and ratchet stop;
- cleaning and lubricating levers, detents and decompression system components;
- reassembling; and
- verifying operation

according to diagnostic results, manufacturers' specifications, workplace policies and procedures and jurisdictional regulations and legislation.

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

9776 Diagnose and Service Transmissions

Skill Set Descriptor

Motorcycle Technicians require knowledge of the operation of the constant mesh and continuously variable transmissions (CVT) to diagnose causes of failure. To service these systems, Motorcycle Technicians replace and shim components.

Skills

9776.01 **Diagnose constant mesh transmissions and components** such as shifter mechanisms (automatic and manual), gears, shafts, seals, bearings, shift forks, shift drum and bushings by:

- performing sensory inspection such as listening for noises, feeling for vibrations and to determine defects, faults and wear;
- performing a motorcycle road test to assess function of transmission;
- accessing components using tools and specialized equipment;
- assessing condition of components (broken or worn gears, worn bearings, damaged shift forks and drum, worn engagement dogs and bent shafts);
- performing measurements using dial gauge or feeler gauge to determine shaft end play and shaft runout;
- interpreting results to identify causes of failure; and
- determining service requirements

according to manufacturers' specifications, workplace policies and procedures and jurisdictional regulations and legislation.

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

◊ **For a compulsory trade, a Trainer must hold a Certificate of Qualification in that trade as per section 10(1) of BOSTA and be registered with Skilled Trades Ontario.**

9776.02 **Diagnose continuously variable transmission (CVT) and components** by:

- performing sensory inspection such as listening for noises, feeling for vibrations, smelling for burnt rubber and feeling for correct engagement to identify defects, faults and wear;
- performing a motorcycle road test to assess function of transmission;
- accessing CVT components such as v-belt, rollers, sheave bushings, springs, sheaves, helix and weights using tools and specialized equipment;
- assessing conditions of CVT components for wear (worn belts and weights) and binding sheaves;
- performing measurements to check belt width, spring free length and weight diameter;
- interpreting results to identify causes of failure; and
- determining service requirements

according to manufacturers' service procedures, company policies and procedures and jurisdictional regulations and legislation.

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

9776.03 **Diagnose front bevel gears** by:

- performing sensory inspection such as listening for noises or feeling for vibrations to identify defects, faults and wear;
- using tools and specialized equipment to access components;
- assessing conditions for wear such as worn or broken gears and bearings;
- performing measurements to check gear clearance;
- interpreting results to identify causes of failure; and
- determining service requirements

according to manufacturers' service procedures, company policies and procedures and jurisdictional regulations and legislation.

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

9776.04 **Service constant mesh transmissions** by:

- replacing damaged, defective or worn constant mesh transmission components such as shifter mechanisms, gears, shafts, circlips, washers, seals, bearings, shift forks, shift drum and bushings; and
- reassembling transmission; and
- verifying operation

according to diagnostic results, manufacturers' specifications, company policies and procedures and jurisdictional regulations and legislation.

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

9776.05 **Service continuously variable transmission (CVT)** by:

- cleaning components such as belt, rollers, sheave bushings, springs, sheaves, helix and weights;
- calibrating and reassembling components;
- replacing CVT components as required;
- reassembling transmission; and
- verifying operation

according to diagnostic results, manufacturers' specifications, company policy and procedures and jurisdictional regulations and legislation.

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

9776.06 **Service front bevel gears** by:

- replacing damaged, defective or worn components;
- calibrating and reassembling components; and
- verifying operation

according to diagnostic results, manufacturers' specifications, company policy and procedures and jurisdictional legislation and regulations.

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

9777 Diagnose and Service Final Drive

Skill Set Descriptor

The final drive encompasses shaft, chain and belt systems in a motorcycle. Motorcycle Technicians need to understand the differences and functions of these systems to diagnose problems. To service final drives, Motorcycle Technicians maintain components such as universal joints, bevel gears and replace gear oil, chains, belts and sprockets on a regular basis.

Skills

9777.01 Diagnose final drive chain and sprockets by:

- performing sensory inspection such as listening for noises, feeling for vibrations and observing for wear or damage;
- performing a motorcycle road test to assess operation;
- using measuring tools and hand tools to inspect final drive chain and sprockets conditions (worn, loose or broken)
- interpreting results to identify causes of failure such as insufficient lubrication, wear, maladjustment and misalignment; and
- determining service requirements

according to manufacturers' specifications, company policy and procedures and jurisdictional regulations and legislation.

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

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9777.02 Diagnose final drive shaft and gears by:

- performing sensory inspections such as listening for noises, feeling for vibrations and observing for fluid leaks, damage wear or defects;
- road testing motorcycle to determine function;
- inspecting fluid levels for contaminants such as metal filings, water and abnormal colour;
- using hand and speciality tools to remove the final drive and access components such as shafts, universal joints, bearings, seals, gears and shims;
- measuring and inspecting components using tools such as micrometers, dial gauges, vernier caliper, manufacturers' specialty tools, machinist dye and torque wrench;
- assessing final drive shaft and gear components for conditions such as cracking, wear, gear pitting, excessive play and leaking;
- identifying causes of failure; and
- determining service requirements

according to manufacturers' specifications, company policy and procedures and jurisdictional regulations and legislation.

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

9777.03 **Diagnose final drive belt and pulleys** by:

- performing sensory inspections such as listening for noises, feeling for vibrations, observing for wear, damage or defects and incorrect tension;
- road testing motorcycle to determine function;
- using tools such as belt deflection gauges, vernier caliper, tape measure, torque wrench and sonic tension meter to assess conditions such as cracking, wear, damaged pulleys and contaminated belts;
- interpreting results to identify causes of failure; and
- determining service requirements

according to manufacturers' specifications, company policy and procedures and jurisdictional regulations and legislation.

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

9777.04 **Service final drive chain and sprockets** by:

- adjusting, cleaning and lubricating chain using hand tools and chemicals;
- removing and installing components (chain; sprockets) using tools and equipment such as tape measures, chain breaking tools, grinder, riveting tools, pliers, torque wrenches and ruler;
- calculating gear ratio changes based on customer requirements;
- aligning chain and wheel using wheel alignment tools; and
- verifying operation

according to diagnostic results, manufacturers' specifications, company policy and procedures and jurisdictional regulations and legislation.

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

9777.05 **Service final drive shaft and gears** by:

- removing and replacing shaft drive fluid;
- removing and replacing final drive shaft and gear components (shafts, universal joints, bearings, seals, gears and shims) using tools such as micrometers, dial gauges, vernier caliper, manufacturers' specialty tools, machinist dye and torque wrench;
- reassembling; and
- verifying operation

according to diagnostic results, to manufacturers' specifications, company policies and procedures and jurisdictional regulations and legislation.

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

9777.06 **Service final drive belt and pulleys** by:

- using tools such as belt deflection gauges, vernier caliper, tape measure, torque wrench, sonic tension meter and hand tools;
- adjusting belt tension;
- removing and installing belt and pulleys as required;
- aligning belt and wheel;
- reassembling; and
- verifying operation

according to diagnostic results, manufacturers' specifications, company policies and procedures and jurisdictional regulations and legislation.

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

9778 Diagnose and Service Electrical Systems

Skill Set Descriptor

Electrical systems communicate all electrical controls and commands that are part of motorcycle operations. Motorcycle Technicians require advanced knowledge of electrical systems to diagnose and service these systems. Service requirements may include preventative measures such as re-routing the wire harness, making connector adjustments and soldering connections as well as repairing electrical problems.

Skills

9778.01 Diagnose battery and charging systems by:

- conducting sensory inspection to identify conditions such as melted or corroded connectors, burnt windings, abraded wiring or connections, burned fuses, and incorrect routing, abnormal lighting, noises and odours;
- testing for battery condition using hydrometer, battery analyser and diagnostic software;
- checking for resistance/voltage drop, voltage output using a multimeter;
- interpreting diagnostic results and identifying causes of failure such as loose terminals, plate distortion, shorted or open wires and improper installation; and
- determining service requirements (repairing or replacing components)

according to manufacturers' specifications, company policies and procedures and jurisdictional regulations and legislation.

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

◊ **For a compulsory trade, a Trainer must hold a Certificate of Qualification in that trade as per section 10(1) of BOSTA and be registered with Skilled Trades Ontario.**

9778.02 **Diagnose electrical ancillary and accessory components** by:

- performing sensory inspection, listening for abnormal noises, smelling for burnt odours, observing for loose or broken accessories and observing lights for brightness;
- using diagnostic tools (multimeter and diagnostic software) to identify malfunctions such as high resistance, short or open circuit, defective controls and improper installation;
- assessing condition of components (lights, horns, signal systems, switches);
- assessing condition of accessory components such as audio system, cruise control, security systems, heated hand grips, heated and inflatable seats, powered windshields and Global Positioning System (GPS);
- interpreting diagnostic results to identify causes of failure such as intermittent functioning; and
- determining service requirements (repair or replace components)

according to manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9778.03 **Diagnose wiring harness systems** by:

- performing sensory inspection such as smelling for burnt odours, observing for burnt wires and feeling for loose or broken connections;
- using diagnostic tools such as multimeter and diagnostic software to identify faults such as open, grounded, high resistance or short circuits;
- interpreting diagnostic results and identifying causes of failure such as incorrect routing and accident damage; and
- determining service requirements (repairing or replacing components)

according to manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9778.04 **Diagnose ignition system** by:

- performing a sensory inspection such as checking for spark, listening for arcing or observing broken or misrouted wiring, smelling for abnormal odours:
- performing checks and measurements (coil resistance, source coil, pulse coil and output voltage) using diagnostic tools such as peak voltage meters, multimeters, spark checker, diagnostic software and timing;
- interpreting diagnostic results to identify causes of failure such as open and shorted circuits, corrosion or defective components; and
- determining service requirements *(*adjusting, repairing or replacing components)

according to manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9778.05 **Diagnose electric starting systems** by:

- performing a sensory inspection such as listening for abnormal sounds, smelling for abnormal odours and observing for loose connections;
- using diagnostic tools such as multimeter and test light to identify faults such as slow or excessive starter motor revolution, excessive current draw or no function;
- performing checks and measurements (wire resistance, cold cranking amperage and voltage drop);
- interpreting diagnostic results to identify causes of failure such as corrosion, or contamination due to leaking seals; and
- determining service requirements

according to manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9778.06 **Service battery and charging system** by:

- identifying type of battery installed (lithium, lead/acid);
- cleaning posts and topping up electrolyte if required;
- charging battery;
- reconditioning components such as dressing armatures, lubricating bushings and cleaning brushes;
- disassembling and reassembling charging system components such as rotor, stator, regulator/rectifier, battery and cables;
- activating new battery prior to installation;
- replacing battery and charging system components;
- disposing of failed batteries; and
- verifying operation

according to diagnostic results, customer preference, battery type, manufacturer's specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9778.07 Service electrical ancillary and accessory components by:

- removing and replacing electrical ancillary components (lights, horns and signal systems);
- removing and replacing accessory components such as audio system, cruise control, security systems, heated hand grips, heated and inflatable seats, powered windshields and GPS;
- reconditioning electrical ancillary and accessory components as required;
- adjusting electrical ancillary and accessory components;
- setting up and configuring electrical ancillary and accessory components; and
- verifying operation

according to diagnostic results, manufacturers' specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9778.08 Service wiring harness systems by:

- replacing, soldering, crimping, splicing and insulating wiring harness systems;
- replacing wiring harness system components such as wires, diodes, resistors, terminals, connectors, insulators and fuses;
- rerouting, sealing and insulating harness as required; and
- verifying operation

according to diagnostic results, manufacturer's specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9778.09 **Service ignition systems** by:

- removing and/or replacing components as required;
- performing adjustments to spark plug gap, pulse coil air gap, throttle position sensor (TPS) using specialized tools such as thickness gauge and scan tool;
- repairing open or shorted circuits, cleaning corrosion, or replacing defective components; and
- verifying operation

according to diagnostic results, manufacturer's specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9778.10 **Service electric starting systems and components** such as armature, solenoids, brushes, bearings, starter gears, sprag clutch, decompressors, battery cables and fasteners by:

- removing and replacing components as required;
- reconditioning such as dressing armature, lubricating bushings, cleaning and replacing brushes;
- performing measurements using a multimeter to determine current draw and resistance; and
- verifying operation

according to diagnostic results, manufacturer's specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9779 Diagnose and Service Vehicle Management Systems

Skill Set Descriptor

Vehicle management systems are comprised of several control units (ECUs) to integrate the functions in the operation of the motorcycle such as fuel injection, ignition control, meter displays, anti-theft management, traction control and ABS. Many of these systems are connected via a controller area network (CAN bus). Motorcycle Technicians use special tools such as diagnostic software, computers, scan tools and multimeters to diagnose and identify faults within these systems. To service a motorcycle's vehicle management systems, Motorcycle Technicians update software to optimize function of scan tool, perform maintenance and make repairs to system circuitry and components.

Skills

9779.01 **Read fault codes** on systems such as engines, braking, traction control, displays and suspension to identify errors or malfunctions by:

- identifying malfunction indicator system used by vehicle;
- determining the method required to retrieve code;
- checking malfunction indicator light (MIL) status (current or historic);
- using diagnostic software to retrieve fault codes;
- recording all data to keep track of faults to be repaired; and
- clearing fault codes if required

according to manufacturer's specifications, workplace practices and procedures and jurisdictional regulations and legislation.

mm/dd/yy	Trainer Print Name	*Trainer Signature
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9779.02 **Interpret fault code results** by:

- determining first code to investigate based on relationship among fault codes;
- comparing active fault codes with stored code (s);
- performing a sensory inspection such as listening for abnormal sounds, smelling for abnormal odours, observing for loose connections; and
- identifying areas of failure

according to manufacturer's specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9779.03 **Test system circuitry and components** such as O2 sensors, crank position sensors, immobilizer units, TPMS sensors, wheel speed sensors, ABS brake pressure sensors, IMU, stability control module and CAN bus by:

- locating, identifying and inspecting vehicle management system components and circuits indicated by fault code;
- using diagnostic tools such as multimeters, diagnostic software and breakout boxes; and
- testing functions of sensors and circuitry's (individual and networked) for continuity, voltage drop and resistance

according to manufacturer's specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9779.04 **Update vehicle management system software** by:

- determining the most recent version of software from manufacturers' online specifications;
- identifying scan tool applicable to vehicle data port;
- programming and configuring individual modules using manufacturers' information and data; and
- verifying operation of updated modules and matching software

according to manufacturer's specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9779.05 **Service system circuitry and components** by:

- crimping, soldering or replacing components using tools such as soldering guns, crimping tools and connector release tools;
- sealing connectors using materials such as dielectric grease, O-rings and heat shrink tubing;
- performing adjustments to sensors using multimeters, diagnostic software and hand tools;
- confirming correct routing of circuit to prevent electromagnetic interference;
- clearing fault codes (engine, braking systems, traction control systems, displays, suspension); and
- verifying operation

according to diagnostic results, manufacturer's specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9780 Diagnose and Service Fuel and Air Delivery Systems

Skill Set Descriptor

Motorcycle Technicians diagnose and service fuel and air delivery system malfunctions. A fuel system is comprised of fuel storage systems, metering systems and air delivery systems. Special tools and equipment are used to diagnose these systems and interpret results. To service fuel and air delivery systems, Motorcycle Technicians perform maintenance tasks such as cleaning, replacing and adjusting components. They also recondition, replace and repair components within these systems.

Skills

9780.01 **Diagnose fuel system components** such as tanks, petcocks, pumps, valves, sending units, filler caps and fuel evaporative system (EVAP) by:

- performing sensory inspection such as listening for pump operation, observing rust in tank or clogged filters and smelling for leaks;
- conducting checks and measurements to test for pressure, volume, operation of sending unit and vacuum components;
- interpreting diagnostic results to identify causes of failure such as fuel pump malfunction, fuel leaks or fuel condition; and
- determining service requirements

according to manufacturer's specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

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9780.02 **Diagnose air delivery systems** such as forced air induction, naturally aspirated, and variable intake runners by:

- performing sensory inspections to identify conditions such as bearing wear, cracks in fittings or incorrect fitting of components;
- conducting checks and measurements (induction air leak test, pressure tests, air flow tests) using tools such as a vacuum gauge or manometer to verify operation of system;
- identifying clearances and tolerances and detect problems such as vacuum leaks and pressure leaks;
- disassembling components such as air filter, air box, air sensors, ducting, intercoolers wastegates, impellers and turbos and superchargers as required;
- interpreting diagnostic results to identify causes of failure such as deterioration due to contamination, warped surfaces, restrictions and scored surfaces; and
- determining service requirements

according to manufacturer's specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9780.03 **Diagnose carburetor systems** by:

- performing sensory inspection to identify conditions such as broken linkages, stuck throttle, fuel state, damaged diaphragms, incorrect assembly and component wear;
- road testing motorcycle and inspecting components to assess failure conditions;
- conducting checks and measurements to verify calibration, synchronization and float height using tools and equipment such as float level gauge, jet gauges, exhaust gas analyzer and manometers;
- interpreting diagnostic results to identify causes of failure such as vacuum leaks, fuel restrictions, damaged diaphragms, incorrect assembly and component wear; and
- determining service requirements

according to manufacturer's specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9780.04 **Diagnose fuel injection systems** by:

- performing sensory inspection to identify conditions such as damaged seals, worn linkages and state of fuel;
- road testing motorcycle to assess operation;
- conducting checks and measurements such as pressure tests, volume tests and injector function;
- performing tests on injectors using tools such as multimeter and fuel injector tester;
- interpreting diagnostic results to identify causes of failure such as clogged injectors, component and sensor malfunctions; and
- determining service requirements

according to manufacturer's specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9780.05 **Service fuel tanks and components** by:

- removing and replacing fuel tank components such as petcocks, pumps, valves, sending units, filler caps and EVAP as required;
- adjusting fuel sender; and
- adjusting and replacing tank mounting components;
- confirming breather system is unobstructed; and
- verifying operation

according to diagnostic results, to manufacturer's specifications, safe handling procedures, workplace practices and procedures and jurisdictional regulations and legislation.

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

9780.06 **Service air delivery systems** by:

- removing and replacing faulty components such as worn bearings, cracked fittings, clogged filters, collapsed hoses, leaking seals and gaskets, leaking intercoolers, seized wastegates, worn impellers and malfunctioning turbos and superchargers as required;
- reconditioning components;
- adjusting settings; and
- verifying operation

according to manufacturer's specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9780.07 **Service carburetor systems and components** by:

- cleaning components using chemical, ultrasonic or mechanical methods;
- replacing worn or faulty components such as inlet fuel valves, floats, seals, gaskets, carburetor body, slides, jets, jet needles and venturi and emulsion tubes as required;
- adjusting settings such as fuel levels, air/fuel mixtures screws, needle clip position and throttle plate synchronization; and
- verifying operation

according to diagnostic results, manufacturer's specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9780.08 **Service fuel injection systems** by:

- removing and replacing components such as hoses, seals, filters, injectors and throttle bodies;
- reconditioning components using procedures such as cleaning filters, injectors and idle air control passages and decarbonizing throttle bodies as required;
- adjusting settings of throttle plate or idle speed and air bypass synchronization; and
- verifying operation

according to diagnostic results, manufacturer's specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

9781 Diagnose and Service Exhaust Systems

Skill Set Descriptor

Motorcycle Technicians diagnose and service exhaust systems to provide optimum engine efficiency and performance. Exhaust system components include muffler, spark arrestor, header pipe, expansion chambers, variable exhaust valves, catalytic converters, gaskets and O2 sensors. Servicing includes replacing non-serviceable components, reconditioning parts and adjusting settings.

Skills

9781.01 Diagnose exhaust systems by:

- performing sensory inspection to identify conditions such as exhaust leaks, broken studs, cracks, restrictions, damaged seals and gaskets;
- road testing motorcycle to assess operation;
- conducting checks and measurements (exhaust gas analysis, exhaust control valve check and sound test) using equipment such gas analyser and sound meter;
- interpreting results of diagnostics; and
- determining service requirements

according to manufacturer's specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

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9781.02 **Service exhaust systems and components** by:

- replacing components such as muffler, spark arrestor, header pipe, expansion chambers, variable exhaust valves, catalytic converters, O2 sensors, seals and gaskets;
- reconditioning components using procedures such as decarbonizing valves and baffles, recoating surfaces and repacking baffles;
- repairing if practical;
- adjusting settings (adjusting cable free play on power valves or adding/removing baffle plates) as required;
- reassembling; and
- verifying operation

according to diagnostic results, manufacturer's specifications, workplace practices and procedures and jurisdictional regulations and legislation.

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

Tools and Equipment

Hand Tools
cylinder hone
valve seat cutter
bearing driver
bearing puller
bolt cutter
brass mallet
bushing and seal driver
circlip pliers
combination wrench set
crimping tool
dead-blow hammer
drill
file
hex wrenches
pin/hook wrench
pliers
punch
reamers
riveting tool
rubber mallet
scrapers
screwdriver
slide hammer
snap ring pliers
socket
spoke wrench
threaded insert repair
tire iron
torx wrench
wire brush
wire stripping

Cutting/Heating Tools and Equipment
grinder
heat gun
Oxy Acetylene cutting equipment
propane torch
soldering equipment

Pneumatic and Electric Power Tools
air impact tool
compressed air gun
grinder
impact driver
riveting equipment

Measuring Devices
air pressure gauge
alignment tools
caliper
carburetor float level gauge
coolant tester
cylinder bore gauge
degree wheel
dial indicator
engine tachometer
feeler gauge
height depth gauge
hydrometer
inclinometer (angle finder)
inside/outside calipers
inside/outside micrometers
micrometer
multimeter oil pressure gauge
oil pressure gauge
plastigage
pounds pull gauge
protractor (magnetic)
refractometer
sag gauge
small hole (ball) gauge
steel ruler
straightedge
tape measure
telescopic gauge
temperature gauge
tension gauge
thickness gauge
tire pressure gauge
torque wrench
tread depth gauge

Measuring Devices (cont.)
vacuum gauges
vernier caliper
vibration meter
volume measuring vessels (graduated cylinders, burettes)

Diagnostic and Testing Tools
alignment tools
borescope
breakout boxes
coil tester
compression tester
crankcase pressure test equipment
fuel/oil pressure tester
hydrometer
infrared thermometer
leak-down tester
load tester
multimeter/DVOM
peak voltage adapter (PVA)
radiator pressure tester
sonic tension meter
stethoscope
test light
timing light
vacuum gauge
vacuum pump

Shop Tools and Equipment
air compressor
alignment bars
ball hone
battery charger
bearing installation tool
bench grinder and wire wheel brush
bleeding equipment
boost leak tester
brake cylinder hone
cable luber
chain breaker
clutch holder
computer diagnostic equipment
crank aligning jig
crank jig
crank installer
crankcase separator
crankshaft puller
cylinder hone
damper rod holder
electric arc welding equipment
electronic diagnostic equipment
frame jig
funnel
gasket scraper
glass bead blaster
grinder
guide installation pilot
hand pump
headlight aiming equipment
honing stone
hydraulic jack
hydraulic press
magnetic base
metal lathe
nitrogen recharging unit
piston pin puller
pneumatic/hydraulic/electric/manual lift table
ring compressor
scraper
seal driver
seal installer
seal remover
shock spring compressor
solvent tank
surface plate
tire balancing equipment
tire mounting equipment
torque plates
truing stand
ultrasonic tank
valve resurfacing tool
valve seat cutter
valve spring compressor
V-block
vice
water bath
wheel truing jig

Acronyms	
ABS	anti-lock braking system
AC	alternating current
CAN	Controller Area Network
CVT	continuously variable transmission
DC	direct current
ECU	electronic control unit
EVAP	Evaporative emission control system
GPS	Global positioning system
IMU	inertial management unit
MIL	malfunction indicator light
OHSA	Occupational Health and Safety Act
PDI	pre-delivery inspection
PPE	personal protective equipment
RPM	revolutions per minute
SDS	safety data sheet
TPMS	Tire pressure monitoring system
TPS	throttle position sensor

Trade Related Glossary

ABS	Anti-lock braking system is a mechanism designed to prevent wheel lock under severe braking conditions
accessory	an item added to a complete motorcycle, to enhance the visual or riding enjoyment of the motorcycle such as an audio system or a carrying rack
ancillary	an item fitted to the motorcycle that is required for the motorcycle to be compliant to safe road operation
brake pad	a stamped section of steel with friction material bonded to it, which is pressed against the brake disc when the brake is applied
brake shoe	a cast aluminum, half-circular shoe that holds a bonded brake lining material; when brake is applied, shoe forces lining into brake drum
chain drive	use of a chain and sprockets to connect gearbox output shaft to rear wheel
chassis	the base frame and components connected directly to it, excluding those parts which provide power, but may include wheels and suspension to become a “rolling chassis”
crankcase	castings that support and contain the crankshaft flywheel assembly, and may also include primary drive and gearbox
cylinder head	casting that seals top of cylinder and provides a mounting place for spark plug. In a four-stroke engine, cylinder head also incorporates intake and exhaust ports. Both two- and four-stroke engines also have combustion chamber built into cylinder head
damper	device which uses oil metered through orifices to control abrupt suspension movement during extension and compression
damper rod	tube secured to bottom of each fork slider to hold slider onto fork leg. Damper rod controls movement of suspension by metering hydraulic fluid through orifices in rod
damping	controlling oil metered through orifices to control abrupt suspension movement during extension and compression
decarbonizing/decarbonization	to remove carbon build-up on piston, combustion chamber, and other parts

diagnostic software	automatic computer program sequence that determines the operational status within the software, hardware or any combination thereof in a component, a system, or a network of systems
ECU	Electronic Control Unit – it uses information from vehicle sensors to controls a series of actuators on internal combustion engine
final drive	chains, sprockets, belts, pulleys, shafts and gears used to connect the gearbox output shaft to rear wheel
friction plate	a plate that has friction material bonded to its surface. When clutch is engaged, friction plate transfers power to steel plate
friction shoe	a cast aluminum, half-circular shoe that holds a bonded friction lining material; it is used to transfer power in a centrifugal clutch
gearbox	a series of shafts and gears which varies ratio of engine to rear wheel speed. Motorcycle gearboxes use two or more speeds or ratios
hydraulic brake	a braking system using hydraulic fluid, piston, and cylinders to provide extremely high pressure for brake application
induction air leak test	commonly referred to as a “vacuum leak test”. An air induction leak test is used to identify unmetered air entering the intake downstream of the throttle plate
master cylinder	components in hydraulic systems that produce hydraulic pressure for systems
mechanical brake	a braking system which uses a mechanical advantage by way of levers and cables or rods to apply brakes. A braking system not using hydraulic fluids or hydraulics
O-ring	used to provide a positive seal. It usually fits into a groove slightly shallower than O-ring, and mated against a flat surface to provide a seal for oil, fuel, coolant or air
primary drive	use of chain, gear, or belt drive (belts and pulleys) to connect crankshaft to clutch and gearbox into shaft
shift drum	a drum shaped gearbox component with slots around its outside diameter. It engages with shift mechanism and shift forks. As drum is rotated, drum slots cause shift forks to move sliding gears or dogs causing engagement and disengagement of various gearbox ratios

shift fork	a flat forked gearbox component which engages with a slot in a sliding gear or dog. Shift forks slide back and forth on lateral shafts. Rotation of shift drum causes shift fork to move its sliding gear or dog to engage with another gear, locking both gears to shaft
spoked wheel	a wheel consisting of a rim, spokes, nipples and hub. Spokes are laced between hub and rim
sprocket/pulley	a sprocket consists of a wheel with teeth to engage a chain or toothed belt and provide a positive (non-slip) drive. In the case of a belt final drive, often the toothed sprockets are referred to as “pulleys”
steering damper	a device which reduces steering oscillation
steering head	forward part of frame providing a mounting place for bearings which locate and support steering spindle and fork assembly
suspension	components which absorb road surface irregularities to smooth motorcycle ride. It is designed to permit controlled wheel movement over irregular surfaces. Basic parts include forks, swing arm and shock absorbers.
swing arm	main member of rear suspension that provides a mounting place for rear wheel and one end of shock absorbers
triple clamps	a pair of sturdy brackets that provide a mounting place for fork legs and steering spindle. Triple clamps attach forks to frame through spindle, steering head and steering head bearings
valve train	all components which directly influence valve operation (cam, cam chain, cam followers, valves, valve springs, valve collars, and keepers) in four-stroke engines.
variable exhaust valve	the exhaust control valve operates by opening and closing thereby varying the exhaust pressure

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.

Red Seal Program

The Interprovincial Standards Red Seal Program (also known as the Red Seal Program) was established more than 50 years ago to provide greater mobility across Canada for skilled workers and represents a standard of excellence for industry. Through the program, individuals are able to obtain a Red Seal endorsement on their provincial/territorial certificates by achieving 70% or higher on an interprovincial Red Seal examination.

The Interprovincial Standards Red Seal Program acknowledges their competence and ensures recognition of their certification throughout Canada without further examination. There are currently over 50 Red Seal designated trades. **The Red Seal Program is recognized as the interprovincial *standard of excellence* in the skilled trades.** The Interprovincial Standards Red Seal Program is a partnership between the Government of Canada, the Provinces, the Territories and various stakeholders.

Sign-off

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

Skill

Individual 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.

Change of Sponsor Records

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.**

Change of Sponsor Record #5

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
9765	Perform Safe Work Practices	
9766	Use Tools and Equipment	
9767	Perform Routine Work Practices	
9768	Demonstrate Communication Skills	
9769	Diagnose and Service Chassis	
9770	Diagnose and Service Suspension Systems	
9771	Diagnose and Service Wheels and Tires	
9772	Diagnose and Service Braking Systems	
9773	Diagnose and Service Engines	
9774	Diagnose and Service Cooling and Lubrication Systems	
9775	Diagnose and Service Clutches and Primary Drives	
9776	Diagnose and Service Transmissions	
9777	Diagnose and Service Final Drive	
9778	Diagnose and Service Electrical Systems	
9779	Diagnose and Service Vehicle Management Systems	
9780	Diagnose and Service Fuel and Air Delivery Systems	
9781	Diagnose and Service Exhaust Systems	

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

9765 Perform Safe Work Practices	**9765.01** Comply with acts, regulations and legislation relevant to the trade	**9765.02** Maintain safe work environment	**9765.03** Use personal protective equipment (PPE) and safety equipment	**9765.04** Handle workplace hazardous materials	**9765.05** Comply with jobsite emergency procedures
9766 Use Tools and Equipment	**9766.01** Use hand tools	**9766.02** Use pneumatic and electric power tools and equipment	**9766.03** Use diagnostic tools and equipment	**9766.04** Use precision measuring instruments	**9766.05** Use shop equipment and specialty tools
	9766.06 Use lifting benches (pneumatic, hydraulic or electric)	**9766.07** Use heating/cutting tools and equipment			
9767 Perform Routine Work Practices	**9767.01** Perform preliminary diagnosis	**9767.02** Perform periodic maintenance	**9767.03** Perform storage procedures	**9767.04** Use trade-related consumables	**9767.05** Prepare new motorcycles
	9767.06 Conduct a preliminary safety inspection				

9768 Demonstrate Communication Skills	**9768.01** Communicate with supervisors, colleagues, other tradespeople, the public and others	**9768.02** Perform customer service activities	**9768.03** Use documentation	**9768.04** Prepare estimates	**9768.05** Mentor apprentices or colleagues
9769 Diagnose and Service Chassis	**9769.01** Diagnose frame	**9769.02** Diagnose steering head	**9769.03** Diagnose steering systems for three-wheel motorcycles	**9769.04** Diagnose handlebars, footrests and controls	**9769.05** Diagnose chassis ancillary and accessory components
	9769.06 Service frames	**9769.07** Service steering heads	**9769.08** Service steering systems for three-wheel motorcycles	**9769.09** Service handlebars, footrests and controls	**9769.10** Service chassis ancillary and accessory components
9770 Diagnose and Service Suspension Systems	**9770.01** Diagnose front suspension components	**9770.02** Diagnose front suspension components on three-wheel motorcycles	**9770.03** Diagnose rear suspension components	**9770.04** Diagnose swing arm	**9770.05** Service front suspension components
	9770.06 Service front suspension components on three-wheel motorcycles	**9770.07** Service rear suspension components	**9770.08** Service swing arms		

9771 Diagnose and Service Wheels and Tires

- **9771.01** Diagnose tires
- **9771.02** Diagnose spoked wheels
- **9771.03** Diagnose one-piece wheels
- **9771.04** Diagnose multi-piece wheels
- **9771.05** Service tires and components
- **9771.06** Service spoked wheels and wheel components
- **9771.07** Service one-piece wheels and components
- **9771.08** Service multi-piece wheels and components

9772 Diagnose and Service Braking Systems

- **9772.01** Diagnose hydraulic braking systems
- **9772.02** Diagnose mechanical braking systems
- **9772.03** Diagnose braking control systems
- **9772.04** Service hydraulic braking systems and components
- **9772.05** Service mechanical braking systems
- **9772.06** Service braking control systems

9773 Diagnose and Service Engines	**9773.01** Diagnose two-stroke cylinder heads	**9773.02** Diagnose four-stroke cylinder heads	**9773.03** Diagnose valve systems on two-stroke engine	**9773.04** Diagnose valve train on four-stroke engine	**9773.05** Diagnose cylinders and pistons
	9773.06 Diagnose crankshaft assemblies	**9773.07** Diagnose counterbalance assemblies	**9773.08** Diagnose engine cases	**9773.09** Service cylinder heads on two-stroke and four-stroke engines	**9773.10** Service valve systems on two-stroke engine
	9773.11 Service valve train on four-stroke engine	**9773.12** Service cylinders and pistons	**9773.13** Service crankshaft assemblies	**9773.14** Service counterbalance assemblies	**9773.15** Service engine cases
9774 Diagnose and Service Cooling and Lubrication Systems	**9774.01** Diagnose cooling systems	**9774.02** Diagnose lubrication systems	**9774.03** Service cooling systems	**9774.04** Service lubrication systems	

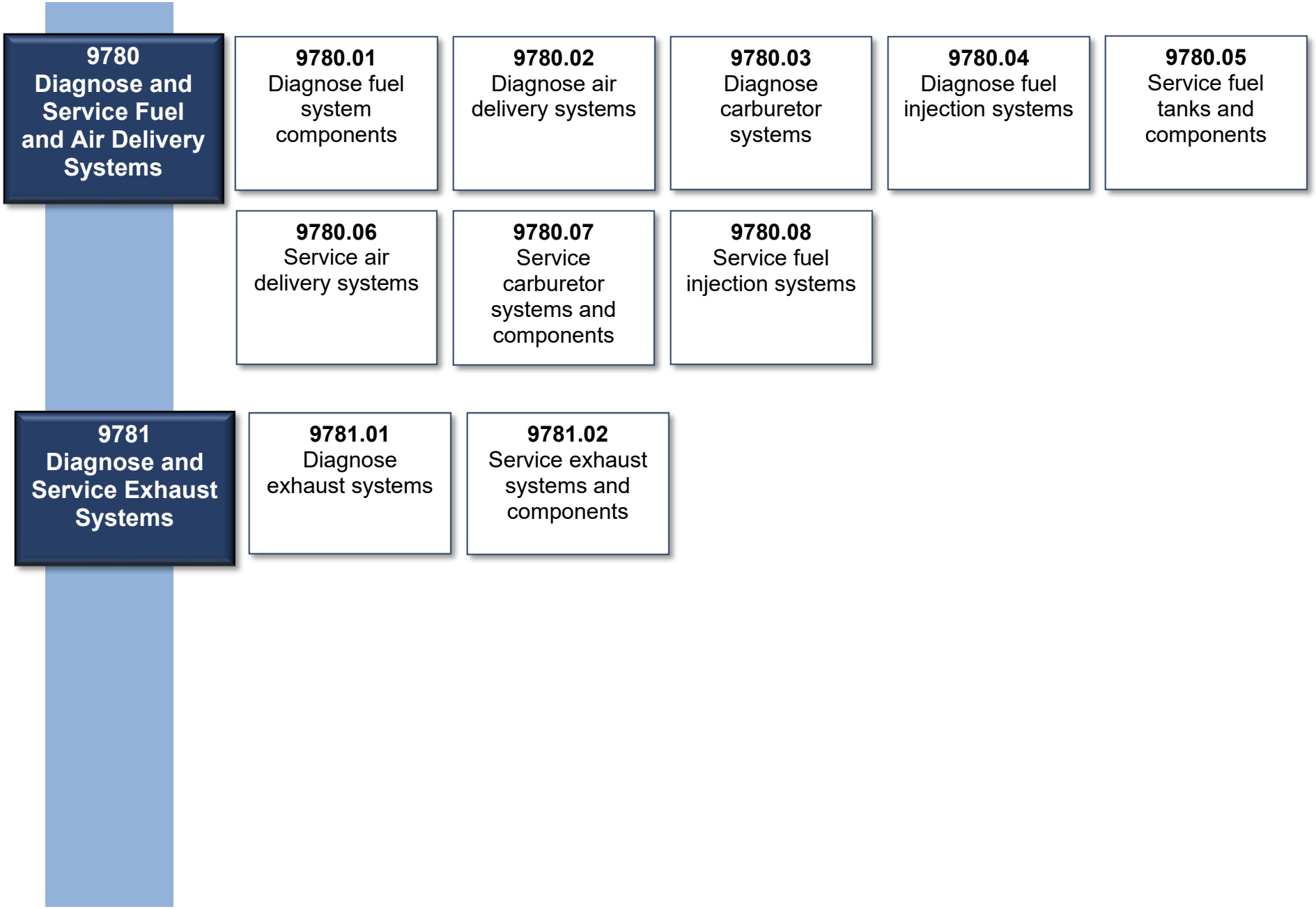
9775 Diagnose and Service Clutches and Primary Drives

- **9775.01** Diagnose primary drive and driven gears
- **9775.02** Diagnose primary drive chain and sprockets
- **9775.03** Diagnose primary drive belts and pulleys
- **9775.04** Diagnose manual clutches
- **9775.05** Diagnose automatic clutches
- **9775.06** Diagnose kick start
- **9775.07** Service primary drive and driven gears
- **9775.08** Service primary drive chain and sprockets
- **9775.09** Service primary drive belts and pulleys
- **9775.10** Service manual clutches
- **9775.11** Service automatic clutches
- **9775.12** Service kick start

9776 Diagnose and Service Transmissions

- **9776.01** Diagnose constant mesh transmissions and components
- **9776.02** Diagnose continuously variable transmission (CVT) and components
- **9776.03** Diagnose front bevel gears
- **9776.04** Service constant mesh transmissions
- **9776.05** Service continuously variable transmission (CVT)
- **9776.06** Service front bevel gears

9777 Diagnose and Service Final Drive	**9777.01** Diagnose final drive chain and sprockets	**9777.02** Diagnose final drive shaft and gears	**9777.03** Diagnose final drive belt and pulleys	**9777.04** Service final drive chain and sprockets	**9777.05** Service final drive shaft and gears
	9777.06 Service final drive belt and pulleys				
9778 Diagnose and Service Electrical Systems	**9778.01** Diagnose battery and charging systems	**9778.02** Diagnose electrical ancillary and accessory components	**9778.03** Diagnose wiring harness systems	**9778.04** Diagnose ignition system	**9778.05** Diagnose electric starting systems
	9778.06 Service battery and charging system	**9778.07** Service electrical ancillary and accessory components	**9778.08** Service wiring harness systems	**9778.09** Service ignition systems	**9778.10** Service electric starting systems and components
9779 Diagnose and Service Vehicle Management Systems	**9779.01** Read fault codes	**9779.02** Interpret fault code results	**9779.03** Test system circuitry and components	**9779.04** Update vehicle management system software	**9779.05** Service system circuitry and components


9780
Diagnose and Service Fuel and Air Delivery Systems
9780.01
Diagnose fuel system components
9780.02
Diagnose air delivery systems
9780.03
Diagnose carburetor systems
9780.04
Diagnose fuel injection systems
9780.05
Service fuel tanks and components
9780.06
Service air delivery systems
9780.07
Service carburetor systems and components
9780.08
Service fuel injection systems
9781
Diagnose and Service Exhaust Systems
9781.01
Diagnose exhaust systems
9781.02
Service exhaust systems and components

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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(Motorcycle Technician)