



**Skilled
Trades**
Ontario

**Métiers
spécialisés**
Ontario

Apprenticeship
Training Standard
Logbook

**Automotive Service
Technician**

310S

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.



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

Phase 1: Registration

Submit Application for Apprenticeship Training through the on-line portal or to local Service Delivery Office

For on-line portal, please follow instructions for registration. You will need to create a *My Ontario* account to access online services.

Training agreement signed and registered by both apprentice and sponsor

Access your Apprenticeship Training Standard Logbook**
skilledtradesontario.ca/about-trades/trades-information

** This is the official record of your training progress. You are responsible for keeping it up-to-date.

Phase 2: Apprenticeship

Complete on-the-job training

Demonstrate and receive sign-off on the competencies/skills in your Apprenticeship Training Standard Logbook

Complete in-school training

Attend and complete the in-class training set out in the Curriculum Training Standard

Apprentices eligible to apply for apprenticeship incentive grants (Red Seal trades) and loans.

Review and finalize your logbook with your sponsor

Submit proof of apprenticeship completion
via email, in-person or digital portal

Your Apprenticeship Training Standard Logbook details completion requirements. Submit the following:

- completed Apprenticeship Training Standard Logbook with signatures
- proof of hours

Certificate of Apprenticeship is issued

Trades without examination

CofA is the final step of the program

Trades with examination (compulsory and non-compulsory trades)*

Provisional Certificate of Qualification issued for a 12 month term

To prepare for the CofQ examination download the Provincial and/or Red Seal Exam preparation guides.

Make payment for your Certificate of Qualification examination

Call to make a payment (647-847-3000 or 1-855-299-0028)

Schedule a date to write your Examination

To schedule your examination, contact your local Service Delivery Office.

Pass Certificate of Qualification examination

Apprentices eligible to apply for Apprenticeship Completion Grant (Red Seal trades) or Apprentice Completion Bonus (non-Red Seal)

Certificate of Qualification is issued

Upon completion, Sponsors may be eligible for Apprenticeship grants, incentives, bonuses or tax credits

Phase 3: Certification

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

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Any updates to this publication are available on-line; to download this document in PDF format, please follow the link: [Skilled Trades Ontario.ca](https://www.skilledtradesontario.ca).

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Revised 2022 (V300)

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

Purpose:

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

The Apprentice agrees:

- **To inform the local Service Delivery Office of any change to your contact information or change in sponsor within 7 days;**
- To follow the Sponsor's and Trainer's lawful instructions and make every effort to acquire the skills identified in the Logbook for the Trade which is part of the apprenticeship program established by Skilled Trades Ontario for the trade;
- To obtain written verification from the Sponsor and the Trainer(s) that the requirements in the Logbook for the trade have been met.
- When you receive an "Offer of Classroom Training", confirm your attendance by following the instructions in the offer. Failure to do so may result in losing your opportunity to attend school which delays the completion of your apprenticeship.

The Sponsor agrees:

- To ensure that the Apprentice is provided with the training required as part of the apprenticeship program established by Skilled Trades Ontario for this trade;
- To review the progress of training with the Apprentice, and with the Trainer(s) where the Sponsor and the Trainer are not the same party.
- Release your apprentice from work to attend in-school training without penalty to the apprentice.
- To maintain the journeyperson/apprentice ratio for your trade, if applicable.
- To monitor their apprentice(s) progress
- To ensure that the Trainer(s) verifies, in writing, when each skill identified in the Logbook for the trade has been successfully completed by the Apprentice;
- To contact the Ministry should any changes in your capacity to train, your contact information, or your apprentice's status in the program change.

Trade Specific Resources and Links

Trade Specific Resource	Link
Red Seal Program	red-seal.ca
Apprenticeship in Ontario	ontario.ca/page/apprenticeship-ontario
Employment Ontario	employmentontario.ca
Service Canada	servicecanada.gc.ca
<i>Building Opportunities in the Skilled Trades Act, 2021</i>	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	ontario.ca/page/ministry-labour-training-skills-development
Exam Preparation Guide	Exam Resources – Skilled Trades Ontario
Skills Zone (Ontario Skills Passport)	http://www.skillszone.ca/
Ministry of Transportation	https://www.ontario.ca/page/ministry-transportation
Driving and Roads	https://www.ontario.ca/page/driving-and-roads
Vehicle Emissions Information	https://www.ontario.ca/page/vehicle-emissions-test
Ministry of The Environment, Conservation and Parks	https://www.ontario.ca/page/ministry-environment-conservation-parks

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

Methodology-Standard Development

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

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

Introduction to the Logbook

This “on-the job” Logbook is the training standard for **Automotive Service Technician (AST) 310S** and was developed by Skilled Trades Ontario in consultation with representatives from industry. It identifies all the skills associated with and required to learn the trade.

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

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

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

All practices described in this standard must be performed by the apprentice according to the specific criteria identified. In general, the standard of performance for the trade of Automotive Service Technician (AST) 310S are to be performed according to all applicable jurisdictional codes and standards and all health and safety standards must be respected and observed. These include the following:

Standard of Performance

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

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

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

Roles and Responsibilities

Under the [Building Opportunities in the Skilled Trades Act, 2021 \(BOSTA\)](#)

Skilled Trades Ontario (STO) is responsible for:

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

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

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

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

Roles and Responsibilities of the Apprentice

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

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

Roles and Responsibilities of Sponsors and Trainers

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

A **Trainer** is an individual who oversees the performance of a task and sets the workplace expectations and practices for the Apprentice.

In compulsory trades, a Trainer must hold a valid Certificate of Qualification and be registered with Skilled Trades Ontario.

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

- A Certificate of Qualification;
- A Certificate of Apprenticeship in the trade; or,
- Has completed both the workplace-based training (competencies and/or hours as applicable) and classroom training components of the trade's apprenticeship program; or,
- Has workplace experience equivalent to the apprenticeship program) and has the skills outlined in the Logbook.

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

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

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

Health and Safety

Safe working procedures and conditions, accident prevention and the preservation of health are of primary importance for apprenticeship programs in Ontario. These responsibilities are shared and require the joint efforts of government, sponsors, employers, supervisors, workers, apprentices and the public to achieve the goal of making Ontario's workplaces safe and healthy.

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

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

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

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

The Internal Responsibility System:

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

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

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

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

Roles and Responsibilities under the Occupational Health and Safety Act

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

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

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

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

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

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

The Three Rights of Workers/Apprentices

The OHSA gives workers and apprentices three important rights:

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

Ministry of Labour, Immigration, Training and Skills Development

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

Ministry of Transportation and Ministry of the Environment, Conservation and Parks

The Ministry of Transportation oversees various aspects of transportation in Ontario, including the establishment and maintenance of the provincial highway system, the registration of vehicles and licensing of drivers, and the policing of provincial roads.

For Automotive Service Technicians, it is important to be aware that MTO also governs safety inspection as well as general vehicle standards.

In Ontario, the Ministry of the Environment, Conservation and Parks establishes on-road emission standards in regulations for all vehicles as well as requirements related to waste management (e.g., waste oil, fluids). Since April 1, 2019, while Ontario drivers are no longer required to get Drive Clean emissions tests for their light passenger vehicles, emissions standards still apply to all vehicles. On-road enforcement officers ensure compliance with these standards.

Apprenticeship Program Summary/Guidelines

Scope of Practice

The Scope of Practice for the trade of **Automotive Service Technician** is set out in section 18 of Ontario Regulation 875/21 under BOSTA and reads as follows:

The scope of practice for the trade of automotive service technician includes engaging in the servicing, repairing, overhauling, diagnosing or inspecting of motor vehicles by doing any of the following:

1. Disassembling, adjusting, repairing and reassembling engines, transmissions, clutches, rear ends, differentials, brakes, drive shafts, axles and other assemblies.
2. Testing for and correcting faulty alignment of wheels, axles, frames and steering mechanisms.
3. Diagnosing faults in, repairing or replacing suspension systems, including shock absorbers and spring assemblies.
4. Diagnosing faults in, installing, repairing and removing ignition, charging and starting systems, panel instruments, wiring and other electrical and electronic systems and equipment.
5. Diagnosing faults in, repairing and adjusting fuel systems, engine management systems and emission control systems.
6. Diagnosing faults in, installing, inspecting, maintaining and removing air-conditioning and refrigeration and heating systems.

O. Reg. 875/21, s. 18

While the Logbook draws on the scope of practice regulation (Section 18 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 6500 hours as the benchmark necessary for any Apprentice to become competent in the skills required. There may be circumstances in which the duration varies from this guideline.

In-Class Training Duration

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

Total Training Hours

7220 hours

Journeyperson to Apprentice Ratio

Some of the skilled trades are subject to Journeyperson and Apprentice ratios, as set in current legislation/regulations governing the apprenticeship and skilled trades system. Further information can be found in the Apprenticeship section of the Government of Ontario website at ontario.ca/page/hire-apprentice

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 Automotive Service Technician is compulsory.

Eligibility for Apprenticeship Program Completion

The Apprentice must:

- Achieve competency in all mandatory (unshaded) skills as identified in the Logbook
- 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 Automotive Service Technician (AST) 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;
- Other applicable legislation and regulations, codes and standards (municipal bylaws etc.);
- Manufacturers' service information;
- Job specifications;
- Schematic diagrams;
- Industry practices;
- Company policies and procedures

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.

- Ozone Depletion Prevention (ODP) Certification
- Valid Driver's Licence
- Welding

Training the Apprentice - Tips for Apprentices, Sponsors and Trainers

Tips for Apprentices

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

- Practice safe work procedures early to create good habits;
- Use your Logbook as a journal to keep track of the skills you have achieved;
- Review your training plan with your Training Consultant, Trainer, or Sponsor;
- Discuss your training needs with your Trainer and/or Sponsor;
- Listen to the suggestions of your Trainer;
- Ask your Trainer questions if you are unsure of any skill you need to perform or any tools or equipment you need to use to perform your duties;
- Show enthusiasm and develop good work habits; and,
- Upon demonstration of competency, ensure that you and your Trainer sign-off the individual skills.

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

Tips for Sponsors

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

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

Tips for Trainers

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

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

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

Notice of Collection of Personal Information

1. At any time during your apprenticeship training, you may be required to show this Logbook to the local Service Delivery Office. You will be required to submit the signed Apprenticeship Completion form to the Service Delivery Office in order to complete your program. The Service Delivery Office will use your personal information to administer and finance Ontario's apprenticeship training system, including confirming your completion and issuing your Certificate of Apprenticeship.
2. The Service Delivery Office will disclose information about your program completion and your Certificate of Apprenticeship to Skilled Trades Ontario, as it is necessary for Skilled Trades Ontario to carry out its responsibilities.
3. Your personal information is collected, used and disclosed by the Ministry of Labour, Immigration, Training and Skills Development under the authority of the *Building Opportunities in the Skilled Trades Act, 2021 (BOSTA)*.
4. Questions about the collection, use and disclosure of your personal information by the Ministry may be addressed to the:

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

List of Trainers

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

9695 Protect Self, Others and the Environment

Skill Set Descriptor

Automotive Service Technicians use hazardous materials and dangerous equipment and are required to comply with safety-related legislation. They use PPE and safety equipment to support safe work practices and protect the environment.

Automotive service technicians are increasingly working on electric motors, inverters, converters, high voltage batteries and associated support systems in hybrid and electric vehicles (EV). Safety is of paramount importance due to the risk of electrocution when working with high voltages.

Skills

9695.01 Comply with acts, regulations and legislation 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;
- identifying the personal and legal liabilities of automotive service technicians, and vehicle owners;
- identifying the components of Workplace Hazardous Materials Information System (WHMIS)/Global Harmonization System (GHS);
- reading and interpreting labels and Safety Data Sheets (SDS); and
- ensuring receipt of training in WHMIS/GHS regulations and practices

according to manufacturers' service information, company policies and procedures, 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.**

9695.02 Use personal protective equipment (PPE) and safety equipment such as work boots, ear protection, eye protection, face shields, insulating gloves, fire extinguishers, fire resistant clothing and breathing apparatus, jack stands, exhaust ventilation fans, lock-out devices and respirators by:

- determining the types of PPE and safety equipment required for specific tasks;
- identifying any workplace hazards (personal, environmental and vehicle restraint systems) that require the use of PPE and safety equipment;
- inspecting for any damages, deficiencies;
- adjusting for fit as required;
- conducting respiratory field fit checks;
- identifying defective safety equipment;
- replacing defective safety equipment;
- tagging defective PPE and safety equipment and removing from use;
- reporting all damaged or expired PPE and safety equipment to supervisor; and
- storing PPE and safety equipment as required

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

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

9695.03 Maintain personal protective equipment (PPE) and safety equipment such as work boots, ear protection, eye protection, face shields, insulating gloves, fire extinguishers, fire resistant clothing and breathing apparatus, jack stands, exhaust ventilation fans and lock-out devices by:

- cleaning and inspecting PPE;
- tagging defective PPE and safety equipment and removing from use;
- reporting all damaged or expired PPE and safety equipment to supervisor; and
- storing PPE and safety equipment as required

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

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

9695.04 Implement specific safety protocols for hybrid and electric vehicles (EV) to mitigate safety hazards (e.g., electrocution, burns) by:

- using PPE and safety equipment such as insulated gloves, pylons, high voltage specific tools, safety hook, glasses, facemask;
- completing safety preparations before starting work on hybrid and EV systems;
- identifying safety hazards specific to working on hybrid and EVs such as electrocution, burns, arc flash;
- following safety protocols for hybrid and EV systems such as high voltage safe work procedures, vehicle shut down procedures and manufacturers' safety procedures; and
- verifying safe work procedures for high voltage and manufacturers' safety procedures have been implemented

according to manufacturers' service information, safety requirements, company policies and procedures, regulations and legislation.

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

9695.05 Mitigate the risk of workplace health and safety hazards such as excessive exhaust and/or explosive fumes, dust, sound levels, electrical and mechanical hazards by:

- keeping the worksite clean and free of obstructions;
- identifying potential worksite hazards and workplace hazardous materials
- determining potential causes such as damaged or faulty air lines and/or inadequate ventilation;
- storing materials and equipment in designated areas and labelled containers;
- following protocols and safety requirements related to alternative fuels (e.g. propane);
- performing sensory inspections;
- using spill kits to contain spills to clean up grease and oil spills and/or fluids;
- erecting protective barriers and guards;
- verifying hoisting, rigging and lifting equipment is safe for use;
- cleaning-up grease and oil spills and/or fluids;
- storing tools and shop equipment, to minimize accident or injury to self and others; and
- following first aid and safety procedures

according to manufacturer's specifications, company policies, legislation and regulations.

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

9695.06 Handle hazardous workplace materials such as cleaning solvents, anti-freeze, transmission and brake fluids, engine oil, brake dust, battery electrolyte, refrigerants and gases by:

- reading and following labels and SDS sheets;
- using PPE;
- using all materials solely for their intended purpose;
- identifying hazardous waste;
- using specified handling and storage equipment;
- labelling materials and containers;
- preventing unauthorized release of hazardous waste to the environment;
- storing hazardous waste into a designated-labeled container;
- sealing container;
- cleaning up spills immediately;
- disposing of the hazardous waste when the container based on required timelines; and
- arranging to have waste picked up or transported to a local hazardous-materials' facility

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

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

9695.07 Reduce impact on the environment by:

- handling chemicals such as cleaning agents, sealers, solvents, paints and admixtures as required by environmental protocols;
- reducing contamination and noise pollution;
- disposing of hazardous materials;
- reducing idling times of vehicles and equipment; and,
- using eco-friendly products, tools and equipment;
- re-using and re-cycling materials and consumables; and
- placing solid materials in recycling bins

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

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

9696 Use and Maintain Tools and Equipment

Skill Set Descriptor

Automotive Service Technicians use and maintain hand, power, measuring, diagnostic, hoisting/lifting and welding tools and equipment to perform their job.

Skills

9696.01 Use hand tools such as drill bits, saw blades, vices, presses, Vernier calipers, pressure gauges, torque wrenches by:

- using applicable personal protective equipment (PPE) for the task;
- identifying the tools for the job;
- verifying that the hand tools are in working condition;
- inspecting tools for defects for wear, damage, defects or expiry;
- cleaning and lubricating as required;
- removing defective tools and accessories from service;
- replacing defective tools and accessories; and
- storing in designated areas

according to manufacturer's specifications, company policies and procedures, industry standards, legislation and regulations.

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.**

9696.02 Maintain hand tools such as drill bits, saw blades, vices, presses, vernier calipers, pressure gauges and torque wrenches by:

- inspecting tools for defects for wear, damage, or expiry;
- cleaning and lubricating tools;
- removing, repairing or replacing defective tools and accessories;
- tagging and disposing of defective tools
- storing in designated areas
- ordering and replacing accessories and components as required
- reporting and documenting defects as required; and
- taking equipment out of service as required

according to manufacturer's specifications, company policies and procedures, industry standards, legislation and regulations.

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

9696.03 Use power tools/shop equipment and accessories (electric, hydraulic, pneumatic) such as brake lathe, tire changing machine, soldering equipment, wheel balancer, battery chargers, drills, drill presses, and grinding wheels by:

- selecting the tool and equipment for the job;
- using applicable PPE for the task;
- verifying that the power tool and accessory are in specified working condition including inspecting cords, connecting devices, housings, control devices;
- verifying the tool is ground fault circuit interrupted as required;
- verifying the power tool and accessories have approval markings as required;
- cleaning and lubricating as required;
- monitoring tool and equipment function and performance; and
- taking equipment out of service as required

according to manufacturer's specifications, company policies and procedures, industry standards, legislation and regulations.

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

9696.04 **Maintain power tools/shop equipment and accessories (electric, hydraulic, pneumatic)** such as brake lathe, tire changing machine, wheel balancer, battery charger, drills, drill presses, soldering equipment, drill bits, saw blades, and grinding wheels by:

- inspecting power tools, shop equipment and accessories for defects;
- cleaning and lubricating;
- removing or repairing defective tools and accessories;
- tagging and disposing of defective tools and accessories;
- ordering and replacing accessories and components as required;
- reporting defects as required;
- taking equipment out of service as required; and
- storing in designated areas

according to manufacturer's specifications, company policies and procedures, industry standards, legislation and regulations.

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

9696.05 Use measuring, diagnostic and testing tools and equipment such as micrometers, pressure testers, coolant strength testers, infrared temperature guns, scan tools by:

- selecting the tool and equipment for the job;
- using applicable PPE for the task;
- inspecting tools and equipment for defects;
- tagging and disposing of defective tools;
- storing in designated areas;
- ordering and replacing accessories and components as required; and
- taking equipment out of service as required

according to manufacturer's specifications, company policies and procedures, industry standards, legislation and regulations.

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

9696.06 Maintain measuring, diagnostic and testing tools and equipment such as micrometers, pressure testers, coolant strength testers, infrared temperature guns, scan tools by:

- inspecting tools and equipment for defects;
- tagging and disposing of defective tools;
- calibrating as required;
- repairing or disposing of defective tools and accessories;
- storing in designated areas;
- ordering and replacing accessories and components as required;
- reporting defects as required; and
- taking equipment out of service as required

according to manufacturers' service information, company policies and procedures, industry standards, regulations and legislation.

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

9696.07 Use electronic service tools and systems for diagnostics and programming such as laptops, smart phones, tablets, OBD II adaptors and scanners by:

- using software applications such as OEM diagnostic and operating software, remote monitoring systems;
- verifying applicable software version;
- downloading software from manufacturer;
- uploading software to controllers;
- selecting the applicable electronic service tools for the task;
- download and document reports from equipment controller;
- forwarding to original equipment manufacturer (OEM) or advisors;
- monitoring data such as temperatures, speeds, voltages;
- monitoring parameters such as pressures, anti-lock braking system, adaptive cruise control (ACC);
- adjusting parameters; and
- interpreting diagnostic results and reports

according to manufacturers' service information, company policies and procedures, industry standards, regulations and legislation.

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

9696.08 Maintain electronic service tools and systems for diagnostics and programming such as laptops, smart phones, tablets, OBD II adaptors and scanners by:

- using software applications such as OEM diagnostic and operating software, remote monitoring systems;
- verifying applicable software version;
- downloading software from manufacturer;
- uploading software to controllers;
- selecting the applicable electronic service tools for the task;
- download and document reports from equipment controller; and
- forwarding to original equipment manufacturer (OEM) or advisors

according to manufacturers' service information, company policies and procedures, industry standards, regulations and legislation.

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

- 9696.09** **Use hoisting and lifting equipment** such as chain falls, hydraulic jacks, engine hoists and vehicle hoists by:
- selecting the applicable equipment for the task;
 - using applicable PPE for the task;
 - verifying equipment is in working condition;
 - confirming the weight, size and type matches the site location, operation and conditions;
 - clearing worksite of personnel not required to be in area;
 - using designated vehicle lift/pull points;
 - anticipating hazards (fire/burns and fall dangers);
 - confirming vehicle is centered and balanced;
 - monitoring equipment function and performance;
 - reporting defects or problems as required; and
 - taking equipment out of service as required
- according to manufacturers' service information, company policies and procedures, industry standards, regulations and legislation.

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

9696.10 Maintain hoisting and lifting equipment such as chain falls, hydraulic jacks, engine hoists and vehicle hoists by:

- inspecting tools and equipment for defects;
- cleaning and lubricating;
- tagging and disposing of defective equipment;
- calibrating as required;
- repairing defective equipment as required (e.g. jacks);
- reporting defects as required;
- taking equipment out of service as required; and
- storing in designated areas

according to manufacturers' service information, company policies and procedures, industry standards, regulations and legislation.

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

9696.11 Perform trade-specific oxy-fuel cutting by:

- selecting and using PPE for the task;
- selecting the applicable cutting device;
- verifying that the device matches the application;
- confirming the devices are in specified working condition through inspection;
- confirming fire extinguishers are available during cutting operations;
- considering hazards related to burns, eye hazards and breathing;
- monitoring device performance, storage requirements and function;
- reporting defects as required; and
- taking equipment out of service as required

according to job specifications, manufacturers' service information, company policies and procedures, industry standards, codes, standards, regulations and legislation.

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

9696.12 Use welding equipment by:

- using applicable PPE for the task;
- using applicable welding process for the metal type of material such as MIG, SMAW, GMAW, GTAW based on the task;
- inspecting tools and equipment for defects;
- cleaning and lubricating;
- tagging and disposing of defective tools;
- storing in designated areas; and
-
- taking equipment out of service as required according to manufacturers' service information, company policies and procedures, industry standards, regulations and legislation.

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

9696.13 Maintain welding equipment by:

- inspecting equipment for defects;
- cleaning and lubricating;
- reporting defects as required;
- taking equipment out of service as required; and
- storing in designated areas

according to manufacturers' service information, company policies and procedures, industry standards, regulations and legislation.

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

9697 Communicate, Mentor and Use Documentation

Skill Set Descriptor

Automotive Service Technicians communicate with colleagues, vendors, other tradespeople and the public, applying customer service skill. They interpret and prepare technical documents, estimates and work orders. With experience, Automotive Service Technicians also become mentors passing on their skills and knowledge to apprentices, as well as sharing knowledge among themselves.

Skills

9697.01 Communicate with colleagues, tradespeople, vendors and the public by:

- using two-way communication practices such as verbal, email and text messaging;
- using active listening practices such as focusing on the speaker, and checking for comprehension through, paraphrasing or interpreting and asking questions;
- responding to feedback by asking questions; and
- participating in work-related meetings

according to company policies and procedures, industry practices, 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.**

9697.02 Use technical documents such as service information, technical service bulletins (TSB), manuals, parts catalogues and schematics, preventative maintenance reports, pre-delivery inspection reports, estimates and repair/work orders by:

- accessing technical diagnostic and repair information;
- using technical information as instructed;
- creating parts and labour lists;
- interpreting codes such as vehicle identification number (VIN), component identification codes and diagnostic indicators;
- accessing computerized service information systems; and
- verifying that documentation is up to date

according to company policies and procedures, industry practices, regulations and legislation.

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

9697.03 Estimate costs of service by:

- determining options for repair or replacement;
- calculating work schedules, labour, parts or equipment costs;
- completing estimation sheet and bill of materials;
- reviewing quote with client; and,
- obtaining client's signature of approval prior to undertaking service work; and
- communicating with employer or shop personnel to confirm the estimates

according to company policies and procedures, industry practices, regulations and legislation.

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

9697.04 Prepare estimates and work orders by:

- recording client information;
- collecting vehicle information such as Vehicle Identification Number (VIN) license plate number and odometer-in reading;
- collecting and documenting other information such as warranty coverage and obligations
- performing a vehicle walk-around including checking and documenting any vehicle damage and overall condition of vehicle;
- documenting customer's complaint;
- reviewing completed repair work order with client; and
- obtaining client authorization/signature

according to company policies and procedures, industry practices, regulations and legislation.

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

9697.05 Practise customer service by:

- answering, re-directing and resolving customer inquiries;
- referring customers to other licensed trade professional services as required
- demonstrating professionalism with customers, other trade personnel and the general public;
- confirming delivery;
- sharing information about customer requirements with company staff;
- advising of delays, reporting general concerns; and
- keeping customer and business information confidential;

according to company policies and procedures, industry practices, regulations and legislation.

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

9697.06 Mentor co-workers by:

- identifying and communicating learning objective(s);
- relating lesson to other lessons and the job;
- demonstrating performance of a skill to the learner;
- setting up conditions to enable the mentee to practice the skill;
- assessing apprentice or colleague's ability to perform tasks with increasing independence; and
- providing feedback and assisting apprentices/colleague in pursuing technical training opportunities
- creating an open and supportive climate for discussion such as sharing personal job experiences with learner;
- assisting apprentice/colleague in pursuing technical training opportunities; and
- supporting a culture of diversity and anti-harassment in the workplace

according to company policies and procedures, industry practices.

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

9698 Diagnose and Repair Engine Systems

Skill Set Descriptor

Automotive Service Technicians diagnose and repair (which may include replacement or rebuilding of components) engine systems including lubricating, cooling and accessory systems.

Skills

9698.01 Diagnose cooling systems and components such as coolants, reservoirs, air pumps, actuators, belts, sensors, radiators, hoses, thermostats and water pumps by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- checking for worn, loose, damaged, missing, leaking or defective components;
- identifying applicable cooling system (liquid/air) and/or relevant components;
- using diagnostic tools and equipment such as scan tools, pressure testers, coolant strength testers, infrared temperature guns;
- inspecting components such as water pumps, radiators, belts, tensioners;
- analyzing coolant;
- identifying restrictions in air and coolant flow;
- identifying electronically controlled system faults such as blown fuses, defective motors, circuit failures, sensors out of range;
- identifying mechanical system faults such as fan, fan clutch thermostat, water valve and belt tension malfunctions, incorrect routing;
- pressure testing coolant system and components; and
- analyzing results of tests and inspections

according to manufacturers' service information and safety requirements.

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.**

9698.02 Repair cooling systems and components such as coolants, reservoirs, air pumps, actuators, belts, sensors, radiators, hoses, thermostats and water pumps by:

- checking cooling system has cooled down prior to repair;
- using repair tools and equipment such as hand tools, air tools, pressure testers, automated refill devices and tension gauges for the task;
- using repair materials (sealants);
- determining type of coolant for repair;
- draining cooling system into proper recovery device as required;
- removing component(s) such as gaskets, O-ring(s) to be serviced or replaced, ensuring not to pry or damage seals, flanges or mounting surfaces;
- cleaning all sealing and mounting surfaces;
- replacing any non-reusable bolts and fasteners;
- installing seals, gaskets or O-rings;
- using sealant only if required and as directed;
- torquing all fasteners;
- re-attaching any components removed from repair;
- ensuring any associated hoses, clamps or retainers have been replaced as required;
- refilling cooling system with coolant mixture for the type of vehicle (if re-using original coolant, testing it before it goes back in); and
- purging cooling system following manufacturer's procedure(s)
- verifying the repair (visual inspection, confirming no leaks, re-testing system to confirm issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9698.03 **Diagnose lubricating systems and components** such as pumps, filters, housings, lines, chains, gaskets, O-rings, coolers, bypass valves by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- using diagnostic tools and equipment such as pressure gauges, scan tools, black light and dye penetrant;
- inspecting components such as pups and drives, coolers, lines/hoses, filters, chains tensioners;
- checking engine oil for contamination and oil levels;
- identifying system faults such as leaks, low and high pressures, pump drive malfunctions;
- performing oil pressure tests; and
- analyzing results of tests and inspections

according to manufacturer's recommendations, specifications, and safety requirements.

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

9698.04 **Repair lubricating systems and components** such as pumps, filters, housings, lines, chains, gaskets, O-rings, coolers, bypass valves by:

- using repair tools and equipment such as scan tools, oil pressure gauges, measuring tools, pre-lubricator, priming tools, hand tools and air tools based on the task;
- using repair materials (sealants);
- selecting type of engine oil for replacement;
- changing oil and filter;
- performing priming and pre-lubrication of oil pressure systems; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9698.05 **Diagnose engine assembly and components** such as engine blocks, cylinder head assemblies, expansion plugs, pistons, rings, connecting rods, bearings, seals, gaskets, liners, counter balancers, crankshafts, camshafts and variable valve actuators by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- using diagnostic tools and equipment such as scan tools, compression testers, measuring tools, stethoscopes, vibration analyzer;
- checking for noise, vibration and harshness (NVH), oil consumption, lack of power, fluid leaks;
- performing tests such as cylinder leak-down, compression and vacuum;
- inspecting engine assembly components;
- inspecting valve timing and valve timing components (e.g., timing belt, pulleys, tensioners); and
- analyzing results of tests and inspections

according to manufacturers' service information and safety requirements.

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

9698.06 Repair engine assembly and components such as engine blocks, cylinder head assemblies, expansion plugs, pistons, rings, and connecting rod assemblies, bearings, seals, gaskets, sealants, liners, counter balancers, crankshafts, camshafts, valve springs and variable valve actuators by:

- using repair tools and equipment such as hand tools, air tools, plastic precision clearance gauges, straight edges, precision measuring tools and torque angle gauge for the job;
- using materials (e.g., gaskets, sealants, fastening devices);
- disconnecting/reconnecting the battery;
- removing engine assembly/components;
- draining/refilling/purging fluids;
- performing measurements and adjustments on components (crankshaft, rings, pistons);
- performing mechanical engine timing procedures (indexing, aligning, pre-tensioning the system);
- performing pre-lubrication and priming of components;
- replacing components as required;
- reinstalling engine/components;
- torquing all fasteners; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9699 Diagnose and Repair Engine Management Systems

Skill Set Descriptor

Automotive Service Technicians diagnose and repair engine management systems. Engine Management Systems are essential for governing engine functions effectively. These systems include fuel control systems, ignition systems and computer-controlled systems.

Skills

9699.01 Diagnose fuel control systems and components such as fuel, malfunction indicator lights (MIL), warning devices, solenoids, relays, sensors, modules, injectors, pumps, actuator modules, interfaces, data links, wiring harnesses, and fastening and mounting devices by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- using diagnostic tools and equipment such as fuel pressure gauges, scan tools, vacuum gauges, DMM, oscilloscope;
- identifying type of fuel control systems and components;
- inspecting fuel properties for contaminants, quality, colour, odour, ethanol content;
- inspecting components for wear, damage and defects;
- performing tests (pressure, volume, fuel injector flow);
- identifying system faults such as engine misfires, lack of power; and
- analyzing results of tests and inspections

according to manufacturers' service information and safety requirements.

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.**

9699.02 Repair fuel control systems and components such as fuel, malfunction indicator lights (MIL), warning devices, solenoids, relays, sensors, modules, injectors, pumps, actuator modules, interfaces, data links, wiring harnesses, and fastening and mounting devices by:

- using repair tools and equipment such as fuel pressure gauges, fuel pressure relief devices, fuel transfer and storage equipment, fuel injector equipment, hand tools and air tools for the job;
- using repair materials (gaskets, sealants and fastening devices);
- removing components;
- performing pressure relief on pressurized components (injectors, pumps, rails, etc.);
- identifying any orientation requirements for replacement;
- servicing or replacing fuel control system and/or components;
- using required torque sequence as well as procedure;
- testing pin tension, CPA connectors and connector integrity;
- performing wire and harness repair (soldering, crimping, insulating and shielding);
- torquing components;
- cleaning and preparing component for installation (replacing O-rings and seals and dielectric grease);
- re-pressurizing system and check for leaks (fluid side);
- re-initializing electrical system and re-set/calibrate (reset fuel trim, clear codes); and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9699.03 **Diagnose ignition systems and components** such as system voltage, distributor components, coils, resistors, ignition modules, switches, sensors, modules, wiring harnesses, ignition spark control, high tension wires, spark plugs, data links, fastening and mounting devices by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- using diagnostic tools and equipment such as oscilloscopes, scan tools, spark testers hand tools, power tools;
- performing ignition tests such as coil, primary and secondary circuits, spark duration and timing, road test;
- inspecting ignition system components; and
- analyzing test results

according to manufacturers' service information and safety requirements.

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

9699.04 **Repair ignition systems and components**, such as system voltage, distributor components, coils, resistors, ignition modules, switches, sensors, modules, wiring harnesses, ignition spark control, high tension wires, spark plugs, data links, fastening and mounting devices by:

- using repair tools and equipment such as hand tools, scan tools, air tools, DMM, gauges, timing light;
- using repair materials and components such as gaskets, sealants, fastening devices;
- measuring and adjusting clearances;
- removing ignition components for repair;
- replacing or servicing components; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9699.05 **Diagnose computer-controlled systems and components** such as system voltage, module programming, sensors, fuses, fusible links, wiring harnesses, drivers, and fastening and mounting devices by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- using diagnostic tools such as hand, power, specialized, electronic service and precision measuring tools;
- inspecting system and components;
- checking for corrosion, diagnostic codes, and vibration/noise and temperature;
- performing testing; and
- analyzing results of tests and inspections

according to manufacturers' service information and safety requirements.

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

9699.06 Repair computer-controlled systems and components such as system voltage, module programming, actuators, sensors, modules, circuit protection devices, wiring harnesses, connectors, and fastening and mounting devices by:

- using repair tools such as hand, power, specialized, and electronic service and precision measuring tools;
- removing, replacing or servicing systems and components;
- disabling electrical system;
- releasing specialized connectors and CPA devices (dock-n-lock, pinch and twist, etc.);
- testing pin tension, CPA connectors and connector integrity;
- performing wire and harness repair (soldering, crimping, insulating and shielding);
- performing contact/pin replacement (release, replace and secure) in connector;
- performing programming to ensure electrical system is operational and fully charged;
- performing pass-thru programming on modules (PCM, TCM, BCM, etc.) using OEM procedures;
- performing re-set, re-calibration, and initializing of modules; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9700 Diagnose and Repair Fuel Delivery Systems

Skill Set Descriptor

Automotive Service Technicians diagnose and repair gasoline and diesel fuel delivery systems. The fuel system consists of the fuel tank, pump, filter, injectors or carburetor.

Skills

9700.01 Diagnose gasoline fuel delivery systems and components such as fuel pumps, supply systems, filters, lines, fuel injectors and throttle actuation systems by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- using diagnostic tools and equipment such as fuel pressure gauges, scan tools, vacuum gages and oscilloscope;
- checking fuel properties for odour, quality, temperature, corrosion, vibration/noise, pressure, leaks, flow, and fuel condition;
- identifying fuel delivery and injection system faults such as engine misfires, lack of power; and
- analyzing test results

according to manufacturers' service information and safety requirements.

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.**

9700.02 **Repair gasoline fuel systems and components** such as fuel pumps, supply systems, filters, lines, fuel injectors and throttle actuation systems by:

- using repair tools and equipment such as fuel pressure gauges, fuel pressure relief devices fuel transfer and storage equipment, hand and air tools;
- using repair materials such as gaskets, sealants and fastening devices;
- removing, replacing or servicing fuel systems and components;
- performing pressure relief on pressurized components (injectors, pumps, rails);
- draining/evacuating tanks, lines and components;
- identifying any orientation requirements for replacement;
- using applicable torque sequence/procedure;
- testing pin tension, CPA connectors and connector integrity;
- performing wire and harness repair (soldering, crimping, insulating and shielding);
- preparing/cleaning component for installation (replacing O-rings, seals, dielectric grease);
- re-pressurizing system and checking for leaks;
- re-setting/calibrating (reset fuel trim, idle learn, min air rate, clear codes);
- performing fuel delivery and injection system procedures such as fuel injector flushes, contaminants removal and filter replacement; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9700.03 Diagnose diesel fuel systems and components such as fuel, tanks, lines, fittings, filters, heaters, valves, injection pressure and transfer pumps, linkages, cables, hydraulic injectors, electronic and mechanical unit injectors, sensors, modules, wiring harnesses, and fastening and mounting devices by:

- reviewing work order to establish a starting point for task;
- performing an inspection for wear, damage and defects to determine a diagnostic strategy;
- visually inspecting and testing of systems and components;
- using pressure and vacuum gauges, scan tools, DMM and graduated cylinders
- checking for: odour, temperature, colour, corrosion, noise, fuel condition, and leaks; and
- analyzing performance and function;

according to manufacturers' service information and safety requirements.

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

9700.04 Repair diesel fuel systems and components such as fuel, tanks, hoses and lines, fittings, filters, heaters, valves, injection pressure pumps, linkages, cables, hydraulic injectors, electronic and mechanical unit injectors, sensors, modules, wiring harnesses, and fastening and mounting devices by:

- using repair tools and equipment such as hand tools, air tools, scan tools, fuel pressure gauges, fuel pressure relief devices, power, electronic service, specialized tools, lifting, rigging, and blocking devices;
- selecting repair materials;
- exchanging, reconditioning, servicing, or programming systems and components;
- performing system maintenance; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, re-testing programming, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9701 Diagnose and Repair Exhaust, Intake, and Emission Control Systems

Skill Set Descriptor

Automotive Service Technicians diagnose and repair exhaust, intake, and emission control systems and components to help the engine run cleanly and efficiently.

Skills

9701.01 Diagnose exhaust and intake systems and components such as intake manifolds, exhaust manifolds and associated piping, mufflers, catalytic converters, turbocharger systems, supercharger systems air pumps, and fastening and mounting devices by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- using diagnostic tools and equipment such as scan tools, vacuum gauges, exhaust back pressure gauges, smoke generators, gas analyzers;
- inspecting exhaust and intake systems for function, leaks, restrictions and variable intake manifold operation;
- performing exhaust/intake system tests such as exhaust back pressure, leak, intake restriction;
- inspecting components for wear, restrictions, damage and defects;
- measuring (end play, boost) turbocharger systems and supercharger systems; and
- recording and analyzing results of tests and inspections

according to manufacturers' service information, safety requirements and regulations.

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.**

9701.02 Repair exhaust and intake systems and components such as manifolds, piping, gaskets, seals, mufflers, heat shields, catalytic converters, resonators, filters, indicators, ducting, air pumps, and fastening and mounting devices by:

- using repair tools and equipment such as scan tools, hand tools, air tools, torches, welders, vacuum and pressure gauges, timing light;
- using materials such as gaskets, sealants, fastening devices;
- removing/replacing exhaust/intake system components;
- depressurizing fuel system;
- using proper removal sequence and tightening sequence;
- preparing (cleaning) component/surfaces for installation (flanges, mounting surface, etc.);
- replacing seals, gaskets and O-rings;
- aligning manifold (guides, pins, studs, etc.);
- torquing components (manifolds, flanges, clamps, etc.);
- testing for leaks (exhaust and fuel);
- servicing turbocharger systems and supercharger systems (priming, lubricating); and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9701.03 Diagnose turbocharger/supercharger systems and components such as housings, shafts, bearings, seals, turbines, waste gates, variable volume controls, manifold boost control devices, boost pressure sensors, piping, actuators, sensors, modules, wiring harnesses, and fastening and mounting devices by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- using: hand, power, specialized, and electronic service tools, gauges, precision measuring instruments, lifting, rigging, and blocking devices;
- inspecting systems and components;
- checking for: opens/shorts/grounds, pressure, temperature, corrosion, lubrication, wear, leaks, and noise/vibration;
- perform tests such as exhaust flow/backpressure, intake manifold pressure (boost), air/intercooler leaks, blow-by, etc.; and
- analyzing results from tests and inspections

according to manufacturers' service information and safety requirements.

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

9701.04 Repair turbocharger/supercharger systems and components such as housings, shafts, bearings, seals, turbines, waste gates, variable volume controls, manifold boost control devices, boost pressure sensors, piping, actuators, sensors, modules, wiring harnesses, and fastening and mounting devices by:

- Using repair tools and equipment: hand tools, air tools, reprogramming equipment, specialized, and electronic service tools, gauges, and precision measuring instruments, and lifting, rigging, and blocking devices;
- use repair materials such as gaskets, sealants, fastening devices;
- removing, replacing or servicing components;
- removing supercharger/turbochargers (remove drive belt, disconnect v-band clamps, oil feed and drain lines, BOV/Wastgate actuator, connector, hoses, etc.);
- replacing supercharger/turbocharger (clean sealing surfaces, install seals/gaskets);
- torquing using proper sequence;
- aligning drive belt;
- testing tensioner;
- cleaning/replacing drain back lines, intake and air-to-liquid intercooler (if equipped);
- draining (refill and bleed) liquid secondary cooling system (if equipped); and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9701.05 Diagnose emission control systems and components such as Positive Crankcase Ventilation (PCV), Exhaust Gas Recirculation (EGR), Catalytic Converters and Evaporative Fuel Systems, PCV and EGR valves, tubing, hoses, evaporative fuel canisters, switches, solenoids, wiring harnesses, catalytic converters, and fastening and mounting devices by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- using diagnostic tools and equipment such as scan tools, smoke generators, evaporative emission control system (EVAP) leak detectors, gas analyzers, DMM;
- performing gasoline emission control system tests such as leak detection, exhaust gas analysis, actuator test, flow test;
- checking for opens/shorts/grounds, colour, pressure, temperature, corrosion, wear, leaks, and noise/vibration; and
- analyzing results of tests and inspections

according to manufacturers' service information and safety requirements.

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

9701.06 Repair emission control systems and components such as Positive Crankcase Ventilation (PCV), Exhaust Gas Recirculation (EGR), Catalytic Converters and Evaporative Fuel Systems, PCV and EGR valves, tubing, hoses, evaporative fuel canisters, switches, solenoids, wiring harnesses, catalytic converters, and fastening and mounting devices by:

- using repair tools and equipment such as hand tools, air tools, cleaning and service tools, scan tools, reprogramming equipment, gas analyzers;
- using repair materials such as gaskets sealants, fastening devices;
- removing and replacing emission control system components;
- disassembling emission components;
- inspecting components and connectors for contamination, fit and function;
- checking for leaks and proper sealing (smoke, manometer);
- replacing components (torquing, tightening and clamping);
- testing pin tension, CPA connectors and connector integrity;
- performing wire and harness repair (soldering, crimping, insulating and shielding);
- performing contact/pin replacement (release, replace and secure) in connector;
- servicing emission control system such as cleaning EGR valves/passages, replacing PCV; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9701.07 Diagnose diesel emission control systems and components such as Exhaust Gas Recirculation (EGR), Diesel Particulate Control (DPC)), Diesel Exhaust Fluid, EGR valves, switches, solenoids, sensors, modules, wiring harnesses, pre-heat devices (glow plugs), injection and monitoring systems, and fastening and mounting devices by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- using diagnostic tools and equipment such as scan tools, smoke generators, leak detectors, DMM, opacity meter, refractometer;
- identifying type of diesel emission control systems and components;
- inspecting diesel emission control system components such as EGR, EVAP, PCV, VCT, Selective Catalyst Reduction (SCR), diesel exhaust fluid (DEF), diesel oxidation catalyst (DOC), diesel particulate filter (DPF);
- performing diesel emission control system tests to check for
- opens/shorts/grounds, colour, pressure, temperature, corrosion, wear, leaks, and noise/vibration; and
- analyzing results of tests and inspections

according to manufacturers' service information and safety requirements.

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

9701.08 Repair diesel emission control systems and components such as Exhaust Gas Recirculation (EGR), Diesel Particulate Control (DPC)), Diesel Exhaust Fluid, EGR valves, switches, solenoids, sensors, modules, wiring harnesses, pre-heat devices (glow plugs), injection and monitoring systems, and fastening and mounting devices by:

- using repair tools and equipment such as hand tools, air tools, cleaning and service tools, scan tools, reprogramming equipment, gas analyzers;
- using repair materials such as gaskets sealants, fastening devices;
- removing and replacing diesel emission control system components;
- servicing emission control system such as cleaning EGR valves/passages; and replacing filters and performing regeneration procedures; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9702 Diagnose and Repair Vehicle Networking Systems

Skill Set Descriptor

Automotive Service Technicians diagnose and repair vehicle networking systems (VNS). Vehicle networking systems allow modules to communicate with each other by sharing input and output information to provide efficient operation and communication of component modules such as the engine, transmission, anti-theft system, climate control, body control and brake control. They also provide vehicle control by monitoring inputs and outputs to modules to make decisions based on pre-set parameters.

Skills

- 9702.01 Diagnose vehicle networking systems** such as body control module, climate control module, engine and power train control module, chassis control module, transfer case module, transmission control module and safety and inflatable restraint module by:
- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
 - distinguishing diagnostic systems to determine data link connection (DLC) location and system operation;
 - identifying system types, components and applications;
 - using diagnostic tools such as scan tools, DMM, oscilloscopes, probes, break-out boxes, LED circuit testers and precision measuring tools;
 - reading and interpreting diagnostic trouble codes (DTCs);
 - scanning all modules such as powertrain control module (PCM), transmission control module (TCM) and body control module (BCM) for related DTCs and software;
 - performing functional tests to find active DTCs, readiness, freeze frame data and stored and pending DTCs;
 - following to manufacturer's diagnostic procedures;
 - inspecting components such as batteries, cables, connectors, display panels, switches, relays, solenoids, motors, sensors, data links, warning devices (e.g. auditory, vibrating etc..), diagnostic lights, lighting/illumination, circuit protection and theft-deterrent devices, networking wiring and cables;
 - identifying faulty system circuitry and components such as, wiring, modules, fuses, relays and grounds;
 - checking for wear, damage or defects;
 - testing programming of circuit operation; and
 - analyzing tests and inspection results

according to manufacturers' service information, schematic diagrams, and safety requirements.

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.**

9702.02 Repair vehicle networking systems such as body control module, climate control module, engine and power train control module, chassis control module, transfer case module, transmission control module and safety and inflatable restraint module by:

- identifying circuit operation and measurements;
- using repair tools and equipment such as hand, power and air tools, electronic service, specialized tools, SAE (Society of Automotive Engineers) J2534 compliant tools and precision measuring tools and soldering equipment;
- using repair materials such as terminals, insulators, fastening devices;
- repairing wiring by splicing, terminal replacement, soldering and crimping;
- replacing components as required;
- updating component software as required;
- calibrating modules according to vehicle requirements;
- following vehicle-specific cautionary procedures such as anti-static straps and disabling restraint systems;
- installing compatible electronic components;
- programming modules using updated documentation; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, re-testing programming, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9703 Diagnose and Repair Drivetrain Systems

Skill Set Descriptor

Automotive Service Technicians diagnose and repair drive train systems, including drive shafts, differentials, drive axle assemblies and components. Drivetrain systems provide a means of transmitting energy from the engine/motor to the drive wheels.

Skills

9703.01 Diagnose drive shafts, differentials, drive axle assemblies and components such as housings, vents, semi-floating axles, hanger bearing assemblies, flanges, yokes, carriers, universal and constant velocity (CV) by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- performing a road test to verify concerns;
- identifying type of drive shaft, differentials, drive axle assembly and applicable components;
- using diagnostic tools and equipment such as electronic vibration analyzers, inclinometers, dial indicators, hand and scan tools;
- inspecting vehicle's drive shaft, axle components and tire circumference tolerances;
- checking for wear, temperature, colour, fluid level/condition, tolerances, vibration/noise, leaks, gear clash, run out, phasing, and corrosion;
- performing functional tests such as sensory inspection, runout, angle measurement; and
- analyzing results of functional tests and inspections

according to manufacturers' service information and safety requirements.

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.**

9703.02 Repair drive shafts, differentials, drive axle assemblies and components such as housings, vents, semi-floating axles, hanger bearing assemblies, flanges, yokes, carriers, universal and constant velocity (CV) by:

- determining the type of drive shafts, differentials, drive axle assemblies and components to be repaired/replaced;
- using repair tools and equipment such as measuring tools (dial indicators, inclinometer), pullers, presses, hand and air tools based on task;
- selecting repair materials according to repair requirements;
- removing/replacing components;
- indexing, aligning and supporting components;
- lubricating drive shaft components;
- torquing and securing fasteners; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9704 Diagnose and Repair Transmission Systems

Skill Set Descriptor

Automotive Service Technicians diagnose and repair transmissions including clutch, manual and automatic transmissions/transaxles, transfer cases and computer-controlled transmissions/transaxles systems.

Skills

9704.01 Diagnose clutch systems and components such as single and multi-disc systems, pressure plate assemblies, release mechanisms, bearings, hydraulic cylinders, lines, flywheel assemblies, pilot bearings, input (pilot) shafts, intermediate plates, switches, solenoids, sensors, and concentric alignment by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- performing road tests to identify issues;
- using diagnostic tools and equipment such as hand tools and air tools, based on task;
- identifying type of clutch control such as mechanical, hydraulic and electronic;
- checking fluid level and condition
- inspecting system and components to check for odour, slippage, chatter, driveability and pedal operation; and
- analysing results of tests and inspections

according to manufacturers' service information and safety requirements.

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.**

9704.02 Repair clutch systems and components such as single and multi-disc systems, pressure plate assemblies, release mechanisms, bearings, hydraulic cylinders, lines, flywheel assemblies, pilot bearings, input (pilot) shafts, intermediate plates, switches, solenoids, sensors, and concentric alignment by:

- determining type of clutch;
- using repair tools and equipment such as measuring tools, pullers, hand and air tools, lifting and support equipment;
- selecting materials such as fluids, seals, lubricants and sealants;
- removing clutch system;
- removing transmission and/or bell housing;
- using tension relief sequence on loaded components;
- replacing, reconditioning clutch system;
- aligning clutch components;
- torquing and sequencing for clutch pressure plate;
- testing flywheel for reconditioning or replacement (thickness, runout, ring gear condition);
- servicing components such as cleaning, polishing and lubricating of release bearing transmission yoke;
- flushing, filling and bleeding of hydraulic system;
- measuring cable systems, checking guides and clips;
- lubricating components; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9704.03 Diagnose manual transmission/ transaxle and components such as housings, gear trains, synchronizers, differentials, shift mechanisms, power take-off (PTO) units, alignment, sensors, modules, switches, bearings, seals, lubrication systems, wiring harnesses, and fastening and mounting devices by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- identifying model of transmission/transaxle;
- performing road test to identify manual transmission/transaxle concerns such as vibrations, noises, drivability and functionality;
- using diagnostic tools and equipment such as chassis ears, stethoscopes, hand tools and scan tools;
- checking fluid level and condition;
- inspecting for leaks and/or damage;
- inspecting manual transmission/transaxle applicable components and controls;
- testing electrical components;
- inspecting engine and driveline mounts; and
- analyzing results of tests and inspections

according to manufacturers' service information and safety requirements.

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

9704.04 Repair manual transmissions/transaxles and components such as housings, gear trains, synchronizers, differentials, shift mechanisms, power take-off (PTO) units, alignment, sensors, modules, switches, bearings, seals, lubrication systems, wiring harnesses, and fastening and mounting devices by:

- determining model of manual transmission/transaxles;
- using repair tools and equipment such as measuring tools, presses, pullers, hand and air tools, lifting and supporting equipment;
- using repair materials such as parts, gaskets, seals, lubricants and sealants;
- removing, replacing, reconditioning or servicing components and controls;
- removing and replacing mounts; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturer's recommendations, specifications, and safety requirements.

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

9704.05 Diagnose automatic transmissions/transaxles and components such as housings, oils, differentials, power take-off (PTO) units, torque converter assemblies, modulators/ throttles, solenoids, sensors, modules, wiring harnesses, valve bodies, gear trains, shafts, bearings, seals, clutch packs, one-way clutches, band and servo assemblies, diagnostic communication lines, MIL, diagnostic trouble codes, and fastening and mounting devices by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- performing road test to identify automatic transmission/transaxle concerns such as vibrations, noises, drivability and functionality;
- using diagnostic tools and equipment such as hand tools, scan tools, pressure gauges, reprogramming equipment;
- identifying model and type such as conventional, CVT, DCT, of automatic transmission/transaxle;
- checking fluid level and condition;
- inspecting for leaks or damage;
- inspecting automatic transmission/transaxle components and controls;
- performing functional tests such as scan tool output, hydraulic line pressure;
- testing electrical components such as solenoids, switches, sensors;
- inspecting engine and driveline mounts; and
- analyzing results of tests and inspections

according to manufacturers' service information and safety requirements.

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

9704.06 Repair automatic transmissions/transaxles and components such as housings, oils, differentials, power take-off (PTO) units, torque converter assemblies, modulators/throttles, solenoids, sensors, modules, wiring harnesses, valve bodies, clutch packs, one-way clutches, band and servo assemblies, communication lines, MIL, diagnostic trouble codes, and fastening and mounting devices by:

- determining the model and type of automatic transmission/transaxle;
- using repair tools and equipment such as scan tools, reprogramming equipment, pressure gauges, measuring tools, presses, pullers, hand and air tools, lifting and supporting equipment;
- using repair materials such as gaskets, seals, lubricants and sealants;
- removing, replacing, reconditioning or servicing components and controls; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9704.07 Diagnose computer-controlled transmissions/transaxles systems and components such as diagnostic codes, warning devices, relays, solenoids, sensors, modules, wiring harnesses, controls, actuators, communication lines, and fastening and mounting devices by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- inspecting components;
- using diagnostic tools and equipment such as scan tools, specialized and electronic service tools;
- checking for colour, temperature, vibration/noise, and corrosion; and
- analysing performance and function

according to manufacturers' service information, schematic diagrams, and safety requirements.

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

9704.08 **Repair computer-controlled transmissions/transaxles systems and components** such as warning devices, relays, solenoids, sensors, modules, wiring harnesses, controls, actuators, communication lines, and fasteners and mounting hardware by:

- identifying type of components;
- using hand, specialized, and electronic service tools;
- replacing components;
- replacing module;
- reprogramming modules and components; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9704.09 Diagnose transfer cases and components such as housings, linkages, bearings, seals, gear trains, locking devices, viscous couplings, lubrication systems, warning devices, relays, solenoids, controls, actuators, sensors, wiring harnesses, modules, information/warning displays, data links, and fastening and mounting devices by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- performing a road test to identify transfer case concerns such as vibrations, noises, driveability, warning lights and leaks;
- using diagnostic tools and equipment such as hand tools, scan tools;
- identifying model and type of transfer case such as part-time, full-time, automatic and AWD (all-wheel drive);
- identifying types of AWD systems;
- checking fluid for leaks, levels, condition and contamination;
- inspecting transfer case, components and controls such as vacuum, mechanical, shifters, linkage;
- inspecting AWD components and controls;
- inspecting electrical components such as actuators, solenoids, sensors, switches;
- performing functional tests; and
- analyzing results of tests and inspections

according to manufacturers' service information, schematic diagrams, and safety requirements.

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

9704.10 Repair transfer cases and components such as housings, linkages, bearings, seals, gear trains, locking devices, viscous couplings, lubrication systems, warning devices, relays, solenoids, controls, actuators, sensors, wiring harnesses, modules, information/warning displays, data links, and fastening and mounting devices by:

- determining model and type of transfer case;
- determining type of AWD (all-wheel drive) system;
- using repair tools and equipment such as scan tools, reprogramming equipment, measuring tools, presses, pullers, hand and air tools, lifting and supporting equipment;
- using repair materials such as gaskets, fluids, seals, lubricants and sealants;
- removing, replacing, reconditioning or servicing components and controls;
- torquing fasteners;
- draining, refilling and replacement of fluids, filters, screen;
- disconnecting drive shafts, electrical connectors, mounts, supports, linkages, etc.;
- reprogramming, initializing and re-setting of components (modules, encodes, actuators, motors);
- testing pin tension, CPA connectors and connector integrity;
- performing wire and harness repair (soldering, crimping, insulating and shielding);
- aligning drive shafts, couplings and actuators; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information, and safety requirements.

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

9705 Diagnose and Repair Primary Electrical Systems

Skill Set Descriptor

Auto Service Technicians diagnose and repair primary electrical systems including wiring and electrical systems, starting/charging systems, low voltage (12-volts) batteries, lighting and wiper systems.

Skills

9705.01 Diagnose wiring and electrical systems such as series circuit, parallel circuit and series-parallel circuits by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- identifying electrical circuit operation and specifications prior to testing;
- interpreting wiring diagrams;
- inspecting components and wires for signs of signs of wear, damage or failure;
- inspecting connectors and connections for conditions such as incorrect routing, corrosion, poor contacts, damaged terminals;
- using diagnostic tools and equipment such as DMM, scan tools, circuit testers;
- performing tests such as functional output, voltage drop and resistance tests to pinpoint fault;
- interpreting viewed data and diagnostic trouble codes (DTCs) to determine condition of systems and components; and
- interpreting and analyzing test and inspection results

according to manufacturers' service information and safety requirements.

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.**

9705.02 Repair wiring and electrical systems such as series circuit, parallel circuit and series-parallel circuits by:

- confirming circuit operation and measurements prior to repair;
- using repair tools (hand tools, air and power tools) and soldering equipment based on application;
- selecting repair materials terminals, insulators and fastening devices;
- replacing or repairing components;
- repairing wiring using methods such as splicing, terminal replacement, soldering and crimping; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9705.03 Diagnose starting/charging systems and components such as low voltage (12-volts) batteries, cables, connectors, alternator, drive belt mechanisms, circuit protection devices, neutral safety devices, solenoids, relays, fusible link, sensors, modules, switches and starting motors by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- interpreting wiring diagrams;
- inspecting components;
- using diagnostic tools and equipment such as battery load tester, DMMs, circuit testers and scan tools, amp clamps, battery capacitance tester, oscilloscopes, to check wear, noise, odour, corrosion, temperature, opens/shorts/grounds, resistance, voltage and amperage;
- interpreting viewed data and DTCs;
- performing starting/charging system and battery tests such as AVR, voltage drop, parasitic draw;
- analyzing tests and inspection results; and
- determining components requiring repair

according to manufacturers' service information, schematic diagrams, and safety requirements.

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

9705.04 **Repair starting/charging systems and components** such as low voltage (12-volts) batteries, cables, connectors, alternator, drive belt mechanisms, circuit protection devices, neutral safety devices, solenoids, relays, fusible link, sensors, modules, switches and starting motors by:

- using hand tools, scan tools, air and power tools, torque wrench, DMMs, oscilloscopes, specialized electronic service tools;
- determining wiring size, connector and/or terminal type;
- disconnecting power;
- removing, replacing, adjusting or repairing components;
- cleaning contacts, mounting surfaces, checking connectors/terminals/wiring;
- perform torquing and tightening sequence;
- splicing, soldering and shielding any wiring repair as required;
- reconnecting power;
- resetting parameters and/or reprogramming as required (e.g., charging system, battery replacement, auto windows and doors, etc.); and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information, and safety requirements.

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

9705.05 Diagnose lighting and wiper systems by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- interpreting wiring diagrams to determine the structure of circuits;
- inspecting components such as wiper linkages/transmissions, motors, modules, switches and lamps for signs of wear, damage or failure;
- using diagnostic tools and equipment such as DMMs, scan tools, circuit testers, oscilloscopes;
- interpreting viewed data and DTCs to determine condition of systems and components;
- performing tests such as functional output, voltage drop, resistance check to pinpoint fault; and
- analyzing test and inspection results

according to manufacturers' service information and safety requirements.

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

9705.06 Repair lighting and wiper systems by:

- using repair tools and equipment such as hand tools, scan tools, air and power tools, reprogramming equipment, DMMs, oscilloscopes, specialized tools;
- adjusting lighting and wiper components such as switches, linkages/transmissions, controls, wiper motors, light bulbs and modules;
- adjusting and aiming headlights;
- clearing DTCs;
- programming and resetting adaptation settings; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9706 Diagnose and Repair Advanced Electrical and Electronic Systems

Skill Set Descriptor

Auto Service Technicians diagnose, repair advanced electrical and electronic systems including safety and convenience systems, electrical accessories, entertainment/infotainment systems and instrumentation/information displays and advanced drive assistance system (ADAS) components. Incorrect processes can result in personal injury and component failure.

Skills

9706.01 Diagnose electrical, electronic, and accessory systems such as, sunroof, power mirrors, power windows, power seats, heated mirrors and heated/cooled seats by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- interpreting wiring diagrams;
- using diagnostic tools and equipment such as DMMs, oscilloscopes, scan tools, circuit testers;
- interpreting viewed data and DTCs to determine condition of systems and components;
- performing tests such as functional output, voltage drop, resistance check to pinpoint fault; and
- analysing test and inspection results

according to manufacturers' service information and safety requirements.

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.**

9706.02 Repair electrical, electronic and accessory systems such as sunroof, power mirrors, power windows, power seats, heated mirrors and heated/cooled seats by:

- using repair tools and equipment such as scan tools, hand tools, air tools, reprogramming equipment, DMMs and oscilloscopes, based on task;
- replacing, repairing and programming systems and components;
- adjusting systems and components;
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information, and safety requirements.

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

9706.03 Diagnose electrical accessories and infotainment/entertainment systems such as media, radio, telematics, satellite communications, and cellular communications by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- inspecting electrical accessories and components such as theft deterrents, remote starters, keyless technology for signs of wear, damage or failure;
- inspecting entertainment systems and components such as audio, video, wireless/handsfree for signs of wear, damage or failure;
- using diagnostic tools and equipment such as DMMs, oscilloscopes, scan tools and circuit testers;
- interpreting wiring diagrams to determine the structure of circuits;
- interpreting viewed data and DTCs to determine condition of systems and components;
- performing tests such as functional output, voltage drop, resistance check, continuity and data to pinpoint fault;
- verifying the display to check that it is functioning as intended;
- identifying presence of aftermarket devices and check operation; and
- interpreting and analyzing test results test to determine required repair

according to manufacturers' service information, and safety requirements.

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

9706.04 **Repair electrical accessories and infotainment/entertainment systems**
such as media, radio, telematics, satellite communications, and cellular
communications by:

- using repair tools and equipment such as scan tools, hand tools, air tools, specialized tools, DMMs and oscilloscopes, based on task;
- replacing or repairing components;
- replacing, repairing, calibrating or reprogramming components and systems;
- replacing, calibrating and programming information display components;
- adjusting systems and components; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information, and safety requirements.

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

9706.05 Diagnose instrumentation/information displays such as gauges, warning indicators, audible indicators, heads-up display (HUD) and digital information centre (DIC) by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- inspecting systems and components for signs of wear, damage or failure;
- using diagnostic tools and equipment such as DMMs, oscilloscopes, scan tools and circuit testers;
- interpreting wiring diagrams to determine the structure of circuits;
- interpreting viewed data and DTCs to determine condition of systems and components;
- performing tests such as functional output, voltage drop, resistance check, continuity and data to pinpoint fault;
- verifying all vehicle warning indicators such as warning messages, warning lights, audible signals to check that they are functioning as intended (self-test and bulb check);
- verifying the display to check that it is functioning as intended;
- identifying presence of aftermarket devices and check operation; and
- interpreting and analyzing test results test to determine required repair

according to manufacturers' service information, and safety requirements.

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

9706.06 **Repair instrumentation/information displays** such as gauges, warning indicators, audible indicators, heads-up display (HUD) and digital information centre (DIC) by:

- using repair tools and equipment such as scan tools, hand tools, air tools, reprogramming equipment, DMMs and oscilloscopes, based on task;
- replacing or repairing components;
- replacing, repairing, calibrating or reprogramming components and systems;
- replacing, calibrating and programming information display components;
- adjusting systems and components; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9706.07 Diagnose advanced driver assistance system (ADAS) components such as around-view cameras, back-up cameras, parking-aid sensors, modules, night vision sensors, driver drowsiness detection, rain sensors, navigation unit, UV sensors, haptic and audible alarms, and warning lights by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- inspecting advanced driver assistance (ADAS) system components for signs of wear, damage or failure;
- using diagnostic tools and equipment such as DMMs, oscilloscopes, scan tools and circuit testers;
- interpreting wiring diagrams to determine the structure of circuits;
- interpreting viewed data and DTCs to determine condition of systems and components;
- performing tests such as functional output, voltage drop, resistance check, continuity and data to pinpoint fault;
- identifying presence of non-OEM devices and check operation; and
- interpreting and analyzing test results test to determine required repair

according to manufacturers' service information and safety requirements.

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

9706.08 Repair advanced driver assistance system (ADAS) components such as around-view cameras, back-up cameras, parking-aid sensors, modules, night vision sensors, driver drowsiness detection, rain sensors, navigation unit, UV sensors, haptic and audible alarms, and warning lights by:

- using repair tools and equipment such as scan tools, hand tools, air tools, reprogramming equipment, specialized tools, DMMs and oscilloscopes based on task;
- replacing or repairing advanced driver assistance (ADAS) system components;
- replacing, repairing, calibrating or reprogramming components and systems;
- adjusting systems and components; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9707 Diagnose and Repair Heating, Ventilation and Air-Conditioning (HVAC)/Climate Control Systems

Skill Set Descriptor

Automotive service technicians diagnose and repair Heating, Ventilation and Air-Conditioning (HVAC and climate control systems) within automotive vehicles. These systems are responsible for heating and cooling the passenger cabins for occupants' comfort. Incorrect processes can result in personal injury, component failure and environmental damage.

Skills

9707.01 Diagnose air flow control systems and components such as hoses, lines, fittings, controls, actuators, cables, valves, switches, relays, sensors, modules, wiring harnesses, modules, compressors, drive mechanisms, motors, pumps, filters, refrigerant, heat exchangers, receiver/dryers, accumulators, ducting, and fastening and mounting devices by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- identifying wear, damage, defects and foreign materials;
- using diagnostic tools and equipment such as digital diagnostic monitoring (DDMs), scan tools, circuit testers, vacuum pumps and inspection camera;
- inspecting air flow circulation;
- interpreting viewed data and DTCs;
- verifying conditions of electronically controlled system components such as blown fuses, seized motors and actuators, broken wires and disconnected ductwork;
- interpreting and following wiring diagrams and vacuum and air flow schematics;
- performing tests such as functional output, voltage drop, vacuum tests, continuity and resistance checks; and
- analyzing test and inspection results

according to manufacturers' service information, schematic diagrams, safety requirements, 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.**

9707.02 Repair air flow control systems and components such as hoses, lines, fittings, controls, actuators, cables, valves, switches, relays, sensors, modules, wiring harnesses, compressors, drive mechanisms, motors, pumps, filters, refrigerant, heat exchangers, receiver/dryers, accumulators, ducting and fastening and mounting devices by:

- using repair tools and equipment such as hand tools air tools, scan tools, specialized tools;
- using repair components and materials;
- following manufacturer's repair sequence;
- replacing faulty components such as cabin filter, blower motors, actuators, ventilation systems, duct work, control units, connectors, blend door motors and resistors;
- cleaning and deodorizing air flow systems using compressed air and pressurized deodorizers;
- clearing DTCs program and resetting adaptation settings; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, analyzing performance and function)

according to manufacturers' service information, safety requirements, regulations and legislation.

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

9707.03 **Diagnose heating systems and components** such as heater core, blower motor, thermostats and pumps by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- identifying wear, damage and defects;
- using diagnostic tools and equipment such as DDMs, scan tools, infrared thermometers, circuit testers, black lights, inspection cameras, gas analyzers;
- performing diagnostic tests such as checking coolant level, pressure, circulation, temperature;
- identifying faults in system such as leaks in cooling system, thermostat failure, air flow restrictions; and
- analyzing results of tests (low coolant level, plugged heater core, insufficient air flow)

according to manufacturers' service information, schematic diagrams, safety requirements, regulations and legislation.

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

9707.04 **Repair heating systems and components** such as heater core, blower motor, thermostats and pumps by:

- using repair tools and equipment such as hand tools, air tools, scan tools, vacuum fill tools, DMMs, oscilloscopes;
- using repair components such as heater core, hoses, thermostat, coolant flow valve, gaskets;
- following repair sequence based on manufacturer's information;
- removing and replacing faulty components (heater core, heater hoses, thermostat, coolant flow valve, gaskets); and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, analyzing performance and function)

according to manufacturers' service information, safety requirements, regulations and legislation.

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

9707.05 Diagnose refrigerant systems and components such as switches, wiring, expansion valves, compressors, evaporators, condensers, lines and seals by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- identifying wear, damage and defects;
- identifying compatibility of refrigerant;
- using diagnostic tools and equipment such as refrigerant leak detectors, refrigerant identifiers, DDMs, circuit testers, AC machines, detection equipment and scan tools;
- interpreting pressure gauge readings, viewed data and DTCs;
- performing leak tests;
- performing tests such as voltage drop, resistance check, pressure test, vacuum test;
- interpreting wiring diagrams;
- verifying operating condition (blown fuses, broken wires, low refrigerant) of electronically controlled system; and
- analyzing tests and inspection results

according to manufacturers' service information, schematic diagrams, safety requirements, Ozone Depletion substance handling requirements, regulations and legislation.

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

9707.06 **Repair refrigerant systems and components** such as switches, wiring, expansion valves, compressors, evaporators, condensers, lines and seals by:

- using repair tools and equipment such as hand tools, air tools, scan tools, specialized tools, AC machine;
- using repair materials such as gaskets, sealants and fastening devices;
- following manufacturers 'repair sequence';
- removing and replacing faulty components (heater core, heater hoses, thermostat, coolant flow valve, gaskets); and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, analyzing performance and function)

according to manufacturers' service information, safety requirements, regulations and legislation.

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

9708 Diagnose and Repair Steering, Suspension and Control Systems

Skill Set Descriptor

Automotive Service Technicians diagnose and repair steering, suspension and control systems. Steering systems transmit inputs from the driver to the wheel assembly actuated through various mechanical and electrical inputs and outputs, designed for precise directional control of the vehicle. Suspension systems are used to support and cushion the vehicle, absorbing road surface irregularities and smoothing the vehicle ride. Control systems include antilock braking systems (ABS), adaptive cruise control (ACC), traction control systems (TCS) and dynamic stability are systems.

Skills

9708.01 Diagnose steering, suspension, control systems and components such as control arms, shock absorbers, springs (leaf, rubber block, air, and torsion bar), equalizers, shackles, bushings, active and air suspension, seals, gaskets, bearings, bushings, guides, variable assist systems, column assemblies, valves, controls, radius/torque rods, controls, actuators, sensors and modules by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- using diagnostic tools and equipment such as scan tools, pressure gauges, dial indicators and alignment machine;
- determining type of steering system such as rack-and-pinion and recirculating ball (steering box);
- determining type of suspension system such as MacPherson strut, leaf spring, independent, moonbeam and electronic suspension systems;
- determining type of control system for the steering and suspension system;
- performing road test to identify steering, suspension and control system concerns such as vibrations, noises, pulls, tire wear and misalignment;
- inspecting steering, suspension and control systems and components;
- checking for worn, loose, missing, leaking, damaged, or defective components;
- performing tests such as clearances, ride height and leaks; and
- analyzing results of tests and inspections

according to manufacturers' service information, schematic diagrams, and safety requirements.

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.**

9708.02 Repair steering, suspension, control systems and components such as control arms, shock absorbers, springs (leaf, rubber block, air, and torsion bar), equalizers, shackles, bushings, active and air suspension, seals, gaskets, bearings, bushings, guides, variable assist systems, column assemblies, valves, controls, radius/torque rods, controls, actuators, sensors and modules by:

- using repair tools and equipment such as hand and air tools, scan tools, pullers, hydraulic press, re-programming equipment, welding equipment and alignment machine;
- using support equipment such as jacks and stands for removal and wire and bungee during replacement;
- using materials such as gaskets, sealants and fasteners;
- removing, replacing, aligning and/or servicing steering and suspension systems components such as springs, dampers control arms and ball joints;
- pressing ball joints, bushings and sleeves (in and out);
- aligning components for suspension geometry (control arms, shackles, struts);
- cleaning, lubricating and preparing components for installation (shafts, bores, sleeves);
- torquing components;
- reprogramming/recalibrating/resetting electronic steering gears;
- recalibrating/resetting steering wheel position sensor, electronic suspension sensors;
- lubricating system;
- flushing and filling power steering system;
- confirming functionality of control systems;
- performing adjustments and calibrations; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9708.03 Align steering, axles and suspensions by:

- adjusting alignment geometry; and
- using alignment equipment, hand, power, specialized and electronic service tools

according to manufacturers' service information and safety requirements.

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

9709 Diagnose and Repair Braking Systems

Skill Set Descriptor

Automotive Service Technicians diagnose and repair braking systems and components (hydraulic, electric and parking brake). The vehicle braking systems are operated by the power unit that supplies hydraulic or electric inputs and outputs to various components such as calipers, wheel cylinders and actuators.

Skills

9709.01 Diagnose braking systems and components such as drums, calipers, pads, shoes, lines, metering valves or blocks, proportioning valves, pressure limiting systems, cylinders, blocks and actuators by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- determining type of braking system (hydraulic, electric, parking brake);
- performing a road test to identify braking concerns such as vibrations, noises, lack of brake assist, pulls, soft or low pedal;
- using diagnostic tools and equipment such as scan tools, pressure gauges, measuring tools;
- inspecting braking system components and fluids;
- identifying ABS/TCS and stability control system components;
- performing tests; and
- analyzing results of tests and inspections

according to manufacturers' service information, schematic diagrams and safety requirements.

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.**

9709.02 Repair braking systems and components such as drums, calipers, pads, shoes, lines, metering valves or blocks, proportioning valves, pressure limiting systems, cylinders, blocks and actuators by:

- using repair tools and equipment such as hand tools, scan tools, air tools, pressure gauges, measuring tools, lathe, reprogramming equipment;
- using materials such as gaskets, fastening devices and lubricants;
- removing, replacing or servicing components;
- supporting the vehicle using wire or bungee cords during replacement;
- preparing (cleaning/lubricating) components for installation (pins, slides, clips);
- torquing components;
- flushing/bleeding the fluid system after hydraulic component replacement;
- performing electronic brake service mode setup;
- compressing caliper and cylinder pistons;
- measuring serviceable components such as drums, rotors, pads and shoes;
- checking for thickness, parallelism and runout;
- machining drums and rotors to finish;
- adjusting brakes (drum, parking); and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9709.03 Diagnose advanced driver assistance systems (ADAS) related to steering, suspension, braking systems and components such as windshield cameras, forward radar sensors and blind spot radar sensors by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- using diagnostic tools and equipment such as DMMs, oscilloscopes, hand tools, scan tools, pressure gauges, measuring tools;
- inspecting ADAS components for wear, damage, failure or obstructions;
- interpreting viewed data and DTCs;
- interpreting wiring diagrams to determine structure of circuits;
- performing tests and calibrations such as circuit test, functional test, dynamic and static calibration; and
- analyzing results of tests and inspections

according to manufacturers' service information and safety requirements.

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

9709.04 Repair advanced driver assistance systems (ADAS) related to steering, suspension and braking systems and components such as windshield cameras, forward radar sensors and blind spot radar sensors by:

- using repair tools and equipment such as DMMs, oscilloscopes, hand tools, scan tools, specialized calibration tools and equipment, small levels;
- removing, replacing and programming ADAS components;
- adjusting ADAS components;
- calibrating ADAS components; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9710 Diagnose and Repair Tires, Wheels, Hubs and Wheel Bearings

Skill Set Descriptor

Auto Service Technicians diagnose and repair of tires, wheels, hubs and wheel bearings for wheel balancing and wheel alignment.

Skills

9710.01 Diagnose tires, wheels, hubs and wheel bearings by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- performing road test to identify tire, wheel, hub and wheel bearing concerns such as vibrations, noises (growl, rumble, whine), pulls, irregular wear, failure, age;
- identifying rating / certification / type of tire;
- using diagnostic tools and equipment such as measuring tools, pressure gauges, chassis ears, stethoscopes, vibration analyzers, TPMS equipment;
- inspecting tires and wheels;
- inspecting hubs and wheel bearings;
- performing tests such as wheel balance, runout and TPMS; and
- analyzing results of tests and inspections

according to manufacturers' service information and safety requirements

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.**

9710.02 Repair tires, wheels, hubs and wheel bearings by:

- using repair tools and equipment such as hand tools, air tools, scan tools, wheel balancers, tire changing machines, tire pressure monitoring tools, presses, pullers, tire inflation gauge;
- identifying the different wheel securement systems;
- performing procedures such as dismounting and mounting, puncture repair, cleaning, resealing, servicing bearings and balancing;
- using materials such as gaskets, sealants, fastening devices and lubricants;
- using supporting components during replacement (wire, bungee, etc.);
- mounting tire on wheel and balancing wheel assemblies;
- reprogramming and calibrating tire pressure monitoring systems;
- removing, replacing and servicing wheels, hubs and wheel bearings;
- preparing (cleaning, lubricating) components for installation (knuckle bore, hub face, hub lip, etc.);
- aligning of drive axles with hub (IWE, locking hub, collets);
- torquing components such as drive axle nut, brake caliper bracket, caliper);
- using sequence to torque based on wheel type (aluminum, steel);
- replacing TPMS sensor (clamp on and pull through); and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9711 Diagnose and Repair Restraint Systems, Body Components, Accessories and Trim

Skill Set Descriptor

Automotive Service Technicians diagnose and repair restraint systems, body components, accessories and trim. Restraint systems provide additional protection for the occupants of the vehicle while body components, accessories and trim, are designed to enhance structural integrity, vehicle appearance and function.

Skills

9711.01 Diagnose wind noises, rattles and water leaks by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- using diagnostic tools and equipment such as chassis ears, water hoses and stethoscope;
- isolating or locating wind noises, rattles or water leaks;
- performing tests such as interior pressure test, water test, road test, visual inspection, mechanical inspections drag test; and
- analyzing results of tests and inspections

according to manufacturers' service information and safety requirements.

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.**

9711.02 Repair wind noises, rattles and water leaks by:

- using repair tools and equipment such as trim tools, hand tools, air tools, scan tools;
- using materials such as lubricants, sealants, adhesives, fastening devices and tapes;
- removing, servicing, adjusting and replacing components;
- replacing body seals and weatherstrips;
- sealing body seams, exterior trim and moulding;
- adjusting doors, glass, hood, mirrors, racks, rails, sunroof;
- cleaning drains, guides and drip trays;
- lubricating guides, rails, screws, levers, hinges and pins; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9711.03 Diagnose latches, locks and movable glass by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- identifying types of latches, locks and movable glass;
- using diagnostic tools and equipment such as hand tools and trim panel tools;
- identifying latches, locks and movable glass components such as electrical (sensors, switches), mechanical (rods, fasteners, latches, hinges);
- inspecting components;
- inspecting warning systems such as chimes, bells, lights;
- identifying faults;
- performing mechanical tests; and
- recording and analyzing results of tests and inspections

according to manufacturers' service information and safety requirements.

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

9711.04 Repair latches, locks and movable glass by:

- following manufacturers' stated safety precautions and protocols;
- using repair tools and equipment such as trim tools, hand tools, air tools;
- using materials such as gaskets, sealants, fastening devices, lubricants;
- removing, servicing, adjusting and replacing components such as electrical (sensors, switches), mechanical (rods, fasteners, latches, hinges);
- removing door panels, trim panels and interior components;
- removing door window motor, power lock actuator, latch switch/sensor;
- releasing clips, rods and cinch couplings;
- adjusting door opening and latching;
- replacing, and/or cleaning and lubricating bushings, pins and springs; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9711.05 **Diagnose interior and exterior components, accessories and trim** such as doors, seats, dashes, bumpers, mirrors, bug shields, visors, spoilers, roof racks, bike racks and running boards by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- using diagnostic tools and equipment such as hand tools, trim tools and hinge tools;
- inspecting interior and exterior components, accessories and trim for flaws (fit, finish, form function);
- performing tests; and
- recording and analyzing results

according to manufacturers' service information and safety requirements.

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

9711.06 **Repair interior and exterior components, accessories and trim** such as doors, seats, dashes, bumpers, mirrors, bug shields, visors, spoilers, roof racks, bike racks and running boards by:

- following manufacturers' stated safety precautions and protocols;
- using repair tools and equipment such as trim tools, hand tools, air tools and scan tools;
- using materials such as adhesives, gaskets, seals and sealants, fastening devices and cleaners;
- removing, servicing, adjusting and replacing components;
- adjusting doors, glass, hood, mirrors, racks, rails, sunroof;
- cleaning and lubricating guides, rails, screws, levers, hinges and pins;
- releasing trim and molding clips and retainers;
- replacing clips, screws and retainers;
- testing connectors and CPA locks (doors, actuators, modules, seats, etc.);
- performing torquing sequence; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9711.07 Diagnose restraint systems (active, passive and conventional) and components such as seatbelts, steering column, occupant classification system (OCS), airbags, pre-tensioner systems, crash sensor, control modules, clock spring, buckle reactors, seat belt track, seat track frame and seat belt covers by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- using diagnostic tools and equipment such as scan tools, hand tools, simulators, test leads, DMMs, oscilloscopes;
- identifying type of restraint system (active, passive, conventional);
- identifying restraint system components;
- inspecting for wear, impediments to airbag systems (seat covers, incorrect accessory placement), damage and defects (tears, frays, modifications) and mechanical operation;
- inspecting restraint system monitoring and warning systems such as warning indicators (chimes, lights);
- identifying restraint system DTCs;
- performing tests according to manufacturers' information; and
- analyzing and recording results

according to manufacturers' service information and safety requirements.

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

9711.08 Repair restraint systems (active, passive and conventional) and components such as seatbelts, steering column, occupant classification system (OCS), airbags, pre-tensioner systems, crash sensor, control modules, clock spring, buckle reactors, seat belt track, seat track frame and seat belt covers by:

- using repair tools and equipment such as hand tools, air tools, scan tools, electronic service, and specialized repair kits, simulators, test leads and DMM;
- using materials (e.g. connectors, fasteners, shrink tubes, wire repair kits);
- removing, servicing and replacing restraining system components;
- disarming and re-arming system;
- torquing (securing) sensors and modules;
- repairing wiring and connectors where required (crimp, solder, insulate and shield);
- replacing wiring harness/harness where permitted;
- aligning column components and re-calibrate (clock spring, angle sensor);
- clearing codes to confirm system is operational; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9712 Diagnose and Repair Hybrid and Electric Vehicle (EV) Systems

Skill Set Descriptor

Automotive Service Technicians diagnose electric motors, inverters, converters, high-voltage batteries and associated support systems in hybrids and EVs. This task includes battery electric vehicles (BEV), hybrid electric vehicles (HEV) and plug-in hybrid electric vehicles (PHEV). Safety is of paramount importance due to the risk of electrocution when working with high voltages.

Skills

9712.01 Diagnose hybrid vehicle (HEV/PHEV) systems by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- identifying type of hybrid system such as series, parallel, combination, plug-in or extended range;
- inspecting hybrid system components such as modules, inverters, high voltage batteries, drive motors based on service information;
- using diagnostic tools and equipment such as scan tools, test equipment such as megohmmeter (insulation resistance tester), DMMs (rated for hybrid/EV voltage), oscilloscopes;
- retrieving DTCs;
- performing tests such as active tests, voltage and amperage tests, resistance check, voltage isolation tests;
- interpreting viewed data and DTCs to determine condition of systems and components; and
- analyzing results of tests and inspections

according to manufacturers' service information and safety requirements.

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.**

9712.02 Repair hybrid vehicle (HEV/PHEV) systems by:

- using tools and equipment such as PPE, safety devices, specialized DMMs, oscilloscopes, hand tools, scan tools and reprogramming equipment;
- deactivating electrical and engine operating system;
- inspecting hybrid system components such as modules, inverters, high voltage batteries, drive motors;
- removing hybrid system components;
- using repair materials such as gaskets sealants, lubricants;
- replacing hybrid system components; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9712.03 Diagnose electric vehicle (EV/BEV) systems by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- identifying type of EV/BEV system such as series, parallel, combination, plug-in or extended range;
- inspecting EV/BEV system components such as modules, inverters, high voltage batteries, drive motors based on service information;
- using diagnostic tools and equipment such as scan tools, test equipment such as megohmmeter (insulation resistance tester), DMMs (rated for hybrid/EV voltage), oscilloscopes;
- retrieving DTCs;
- performing tests such as active tests, voltage and amperage tests, resistance check, voltage isolation tests;
- interpreting viewed data and DTCs to determine condition of systems and components; and
- analyzing results of tests and inspections

according to manufacturers' service information and safety requirements.

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

9712.04 Repair electric vehicle (EV/BEV) systems by:

- using tools and equipment such as PPE, safety devices, specialized DMMs, oscilloscopes, hand tools, scan tools and reprogramming equipment;
- deactivating electrical system;
- inspecting system components such as modules, inverters, high voltage batteries, drive motors;
- removing EV system components;
- using repair materials such as gaskets sealants, lubricants;
- replacing EV system components;
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9712.05 Diagnose high voltage batteries by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- identifying type of high voltage battery such as nickel metal hydride, lithium ion;
- using diagnostic tools and equipment such as specialized PPE, safety devices, scan tools, electronic service tools, insulation testers, specialized DMMs;
- inspecting components such as control modules, contactors, cooling, bus bars, high voltage connections, high voltage interlocks, for wear, damage and defects;
- retrieving DTCs;
- performing tests such as functional tests (contactor, coolant pump, cell balance tests) state of health check, state of charge check, predicted vehicle range check, voltage balance check, pressure tests;
- interpreting viewed data and DTCs to determine condition of battery and components;
- analyzing results of tests and inspections; and
- isolating the problem

according to manufacturers' service information and safety requirements.

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

9712.06 Services high voltage batteries by:

- using tools and equipment such as specialized PPE, safety devices, scan tools, specialized hand tools, electronic service tools, insulation testers, specialized DMMs;
- removing hybrid system components;
- inspecting high voltage battery components;
- using service materials such as gaskets, sealants;
- repairing or replacing components;
- replacing hybrid system components;
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

9712.07 Diagnose hybrid and electric vehicle (EV) HVAC systems by:

- performing an inspection to verify concern/issue at hand and determine diagnostic strategy;
- identifying type of EV/BEV system such as series, parallel, combination, plug-in or extended range;
- inspecting EV/BEV system components such as modules, inverters, high voltage batteries, drive motors based on service information;
- using diagnostic tools and equipment such as scan tools, test equipment such as megohmmeter (insulation resistance tester), DMMs (rated for hybrid/EV voltage);
- retrieving DTCs;
- performing tests such as active tests, voltage and amperage tests, resistance check, voltage isolation tests;
- interpreting viewed data and DTCs to determine condition of systems and components; and
- analyzing results of tests and inspections

according to manufacturers' service information and safety requirements.

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

9712.08 Repair hybrid and electric vehicle (EV) HVAC systems by:

- using tools and equipment such as PPE, safety devices, specialized DMMs, hand tools, scan tools and reprogramming equipment;
- deactivating electrical system;
- inspecting system components such as modules, inverters, high voltage batteries, drive motors;
- removing EV system components;
- using repair materials such as gaskets sealants, lubricants;
- replacing EV system components; and
- verifying the repair (inspecting systems and components, re-testing system to confirm that issue no longer exists, road testing, analyzing performance and function)

according to manufacturers' service information and safety requirements.

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

List of Acronyms	
ABS	antilock braking systems
AC	alternating current
ACC	adaptive cruise control
ADAS	advanced driver assistance systems
AST	Automotive Service Technician
AVR	alternator voltage regulator
AWD	all-wheel drive
BCM	body control module
BEV	battery electric vehicles
BOV	blow-off valves
CPA	connector position assurance
CV	constant velocity
CVT	continuously variable transmission
DDM	digital diagnostic monitoring
DCT	dual-clutch transmission
DEF	diesel exhaust fluid
DIC	driver information centre
DLC	data link connection
DMM	digital multi meter
DOC	diesel oxidation catalyst
DPF	diesel particulate filter
DPC	diesel particulate control
DTC	diagnostic trouble codes
EGR	exhaust gas recirculation
EV	electric vehicles
EVAP	evaporative emission control systems
GHS	Globally Harmonized System
GMAW	gas metal arc welding
GTAW	gas tungsten arc welding
HEV	hybrid electric vehicles
HUD	heads-up display

HVAC	heating, ventilation and air conditioning
IWE	Integrated wheel end
IRS	Internal Responsibility System
LED	light emitting diode
MIG	metal inert gas welding
MIL	malfunction indicator lights
NVH	noise, vibration and harshness
OCS	occupant classification system
OBD	on board diagnostics
ODP	Ozone Depletion Prevention
OEM	original equipment manufacturer
OHSA	Occupational Health and Safety Act
PCM	powertrain control module
PCV	positive crankcase ventilation
PHEV	plug-in hybrid electric vehicles
PPE	personal protective equipment
PTO	power take-off
SAE	Society of Automotive Engineers
SCR	selective catalyst reduction
SDS	safety data sheets
SMAW	shielded metal arc welding
TCM	transmission control module
TCS	traction control systems
TPMS	tire pressure monitoring system
TSB	technical service bulletins
VCT	variable cam-timing
VIN	vehicle identification number
VNS	vehicle networking systems (VNS)
WHMIS	Workplace Hazardous Materials Information System

Trade Specific Glossary

Manufacturers' service information: This includes maintenance schedule, specifications, recommendations, procedures, standards and bulletins.

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.

Journey person

Journey person means an individual who holds a certificate of qualification (in a compulsory or non-compulsory trade) and/or an individual who practices as a journey person 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.

Sponsor Record #1

Sponsor Information		
Apprentice Name		
Training Agreement #		Date (mm/dd/yy)
Sponsor Name		
Address		
Telephone		
E-mail Address		

Summary of Training	
Employment Start Date	
Employment End Date	
Total hours of training & instruction between dates of employment.	
Skill Sets Completed	

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

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

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

***If you need additional copies of the Sponsor Record, visit SkilledTradesOntario.ca and search Sponsor Record Form.**

Change of Sponsor Record #2

Sponsor Information		
Apprentice Name		
Training Agreement #		Date (mm/dd/yy)
Sponsor Name		
Address		
Telephone		
E-mail Address		

Summary of Training	
Employment Start Date	
Employment End Date	
Total hours of training & instruction between dates of employment.	
Skill Sets Completed	

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

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

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

***If you need additional copies of the Sponsor Record, visit SkilledTradesOntario.ca and search Sponsor Record Form.**

Change of Sponsor Record #3

Sponsor Information		
Apprentice Name		
Training Agreement #		Date (mm/dd/yy)
Sponsor Name		
Address		
Telephone		
E-mail Address		

Summary of Training	
Employment Start Date	
Employment End Date	
Total hours of training & instruction between dates of employment.	
Skill Sets Completed	

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

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

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

***If you need additional copies of the Sponsor Record, visit SkilledTradesOntario.ca and search Sponsor Record Form.**

Change of Sponsor Record #4

Sponsor Information		
Apprentice Name		
Training Agreement #		Date (mm/dd/yy)
Sponsor Name		
Address		
Telephone		
E-mail Address		

Summary of Training	
Employment Start Date	
Employment End Date	
Total hours of training & instruction between dates of employment.	
Skill Sets Completed	

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

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

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

***If you need additional copies of the Sponsor Record, visit SkilledTradesOntario.ca and search Sponsor Record Form.**

Appendix A — Instructions for Apprenticeship Program Completion

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

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

1. They sign the forms and submit them to their local Service Delivery Office. To find the closest office, check the contact information at ontario.ca/page/employment-ontario-apprenticeship-offices or call the *Employment Ontario* toll free number at (1-800-387-5656).
2. For All Trades: All mandatory skills (or the combination indicated in the completion requirements for the trade) in the Logbook must be signed-off. The recommended hours are a benchmark. If the Sponsor is completing the Apprentice before the industry recommended training hours are done, staff may request further information regarding the Apprentice's on-the-job training. An example of a request would be a letter from the Sponsor confirming the Apprentice worked for some time in the trade before the initial Training Agreement was registered, thereby acquiring some skills beforehand.

If Apprentices are submitting the completion request form and supporting documentation to their local Service Delivery Office by mail, fax, or email (as a scanned document), they should not include their Logbook; if they are presenting this form in person at the local Service Delivery Office, they should bring their Logbook with them.

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

Skilled Trades Ontario will receive notification of this completion.

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

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

Appendix B — Apprentice Completion Form

Please fill out both sides of this form, including the Skill Set Completion for Sponsors (see back of form). Once both sides are completed, submit the form to your local Service Delivery Office (find contact information at ontario.ca/page/employment-ontario-apprenticeship-offices or by calling Employment Ontario at (1-800-387-5656).

Apprentice Information	
Name (print)	
Client ID # Issued by Ministry	
Telephone Number(s)	

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

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

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

X _____ 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
9695	Protect Self, Others and the Environment	
9696	Use and Maintain Tools and Equipment	
9697	Communicate, Mentor and Use Documentation	
9698	Diagnose and Repair Engine Systems	
9699	Diagnose and Repair Engine Management Systems	
9700	Diagnose and Repair Fuel Delivery Systems	
9701	Diagnose and Repair Exhaust, Intake and Emission Control Systems	
9702	Diagnose and Repair Vehicle Networking Systems	
9703	Diagnose and Repair Drivetrain Systems	
9704	Diagnose and Repair Transmission Systems	
9705	Diagnose and Repair Primary Electrical Systems	
9706	Diagnose and Repair Advanced Electrical and Electronic Systems	
9707	Diagnose and Repair Heating, Ventilation and Air-Conditioning / Climate Control Systems	
9708	Diagnose and Repair Steering, Suspension and Control Systems	
9709	Diagnose and Repair Braking Systems	
9710	Diagnose and Repair Tires, Wheels, Hubs and Wheel Bearings	
9711	Diagnose and Repair Restraint Systems, Body Components, Accessories and Trim	
9712	Diagnose and Repair Hybrid and Electric Vehicle (EV) 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

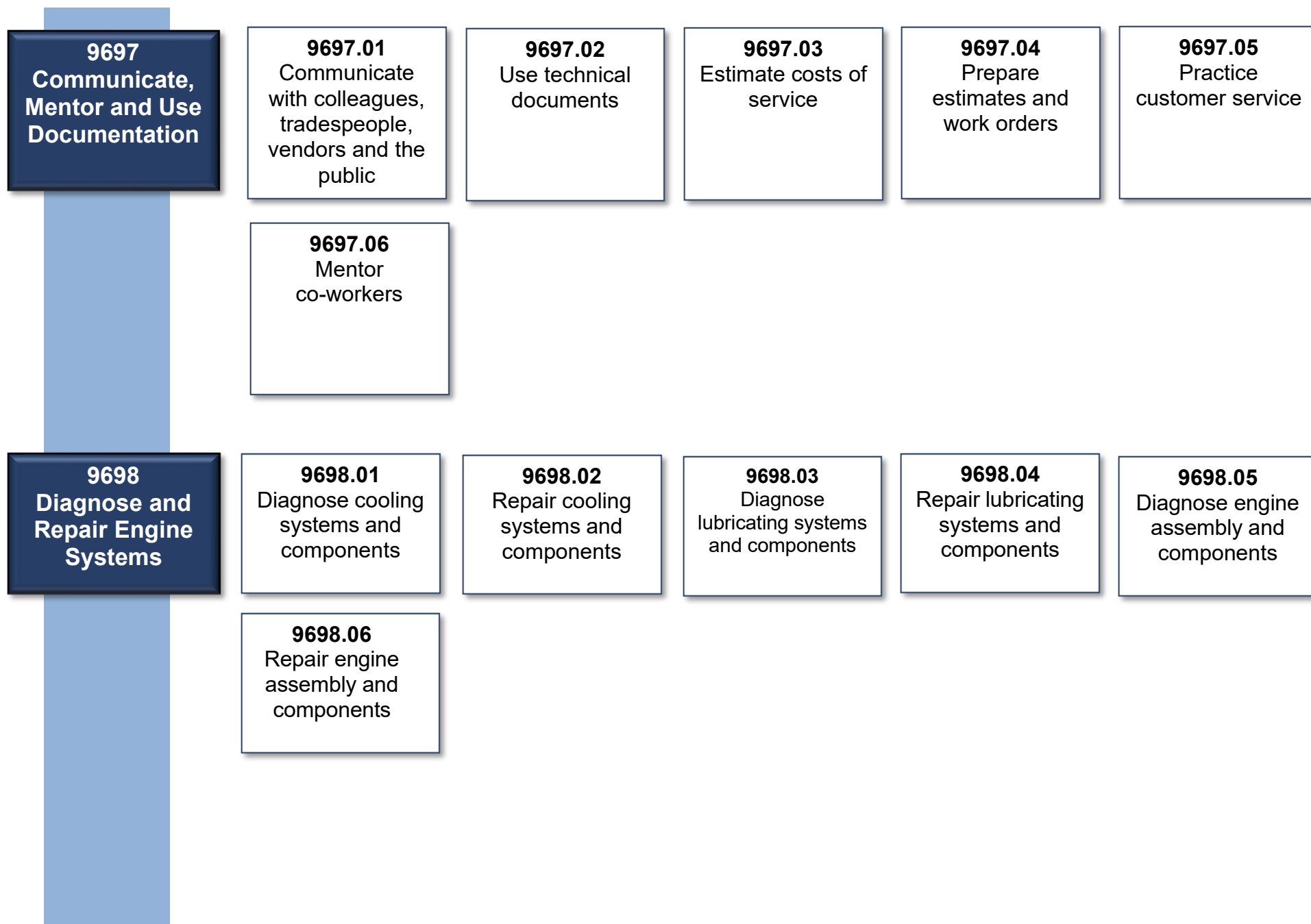
For current office listings visit: ontario.ca/page/employment-Ontario-apprenticeship-offices

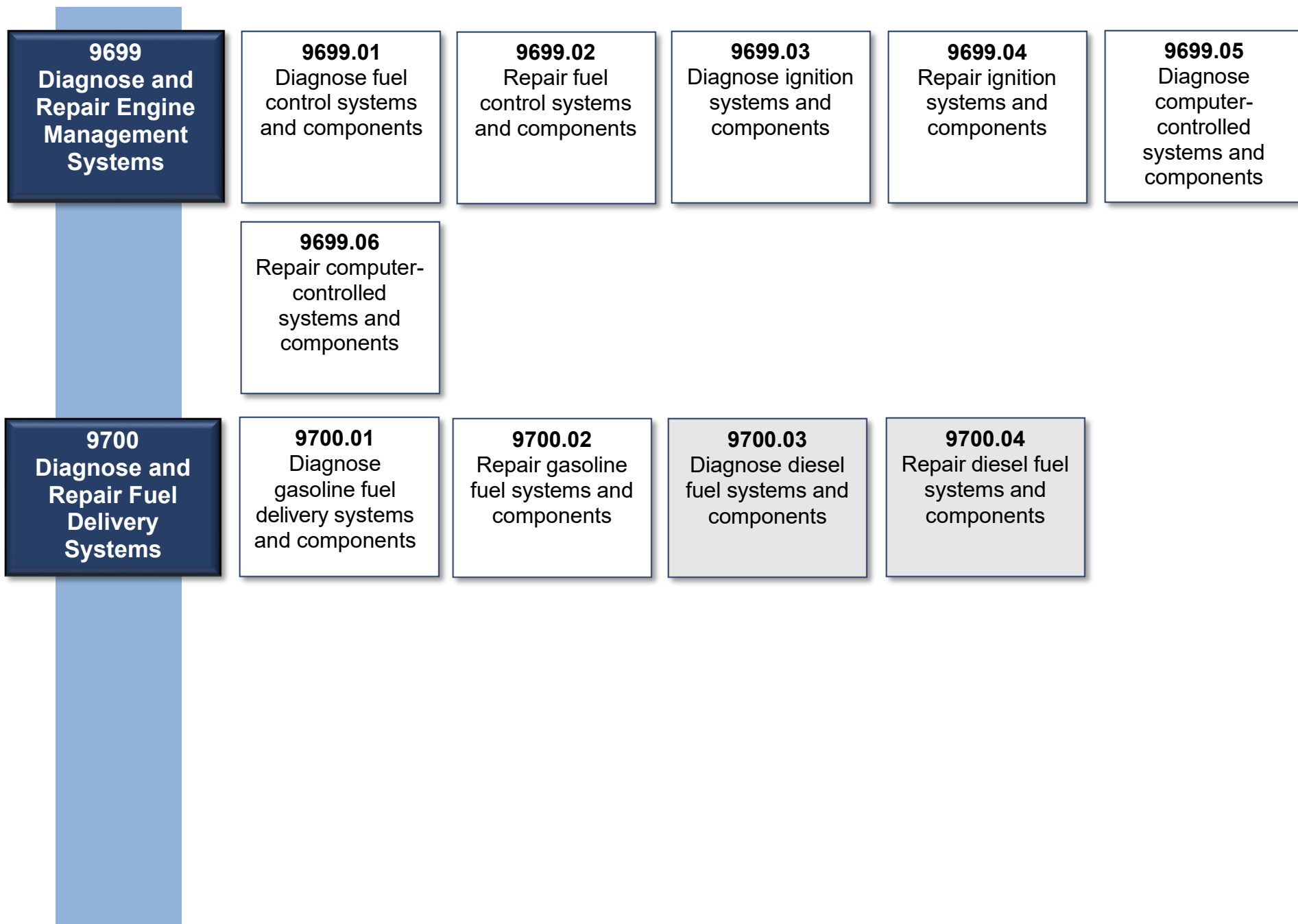
Location	Contact	Location	Contact
Barrie 705-737-1431	55 Cedar Pointe Dr Unit 609, Barrie, ON L4N 5R7	Marathon 807-346-1550	52 Peninsula Road, Suite 103 Marathon, Ontario, P0T 2E0
Belleville 613-968-5558 1-800-953-6885	135 North Front St, Belleville, ON K8P 3B5	Markham 905-513-2695	140 Allstate Parkway, 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, 11 th 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

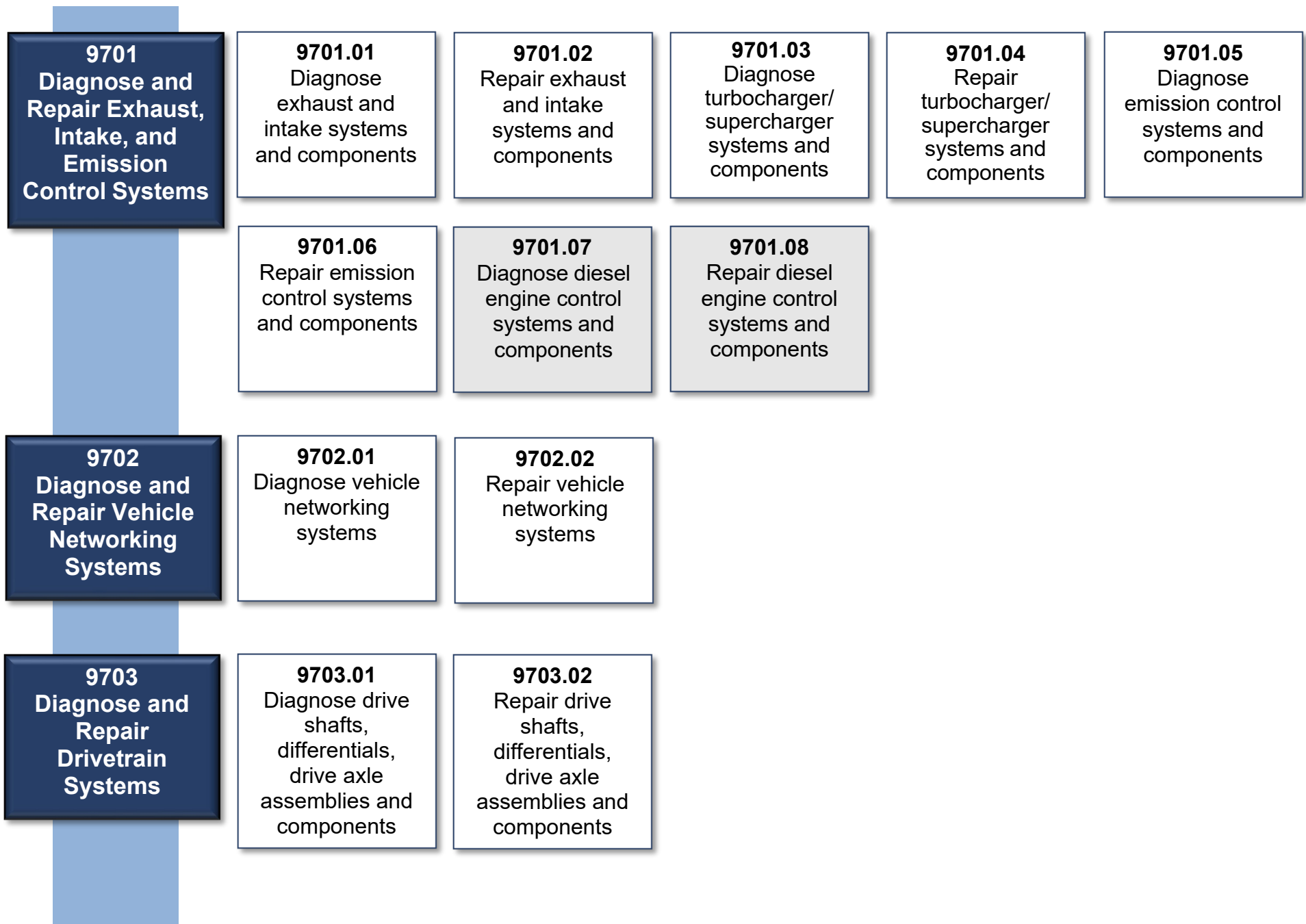
9695 Protect Self, Others and the Environment	9695.01 Comply with acts, regulations and legislation	9695.02 Use personal protective equipment (PPE) and safety equipment	9695.03 Maintain personal protective equipment (PPE) and safety equipment	9695.04 Implement specific safety protocols for hybrid and electric vehicles (EV)	9695.05 Mitigate the risk of workplace health and safety hazards
	9695.06 Handle hazardous workplace materials	9695.07 Reduce impact on the environment			
	9696.01 Use hand tools	9696.02 Maintain hand tools	9696.03 Use power tools/ shop equipment and accessories (electric, hydraulic and pneumatic)	9696.04 Maintain power tools/ shop equipment and accessories (electric, hydraulic and pneumatic)	9696.05 Use measuring, diagnostic and testing tools and equipment
	9696.06 Maintain measuring, diagnostic and testing tools and equipment	9696.07 Use electronic service tools and systems for diagnostics and programming	9696.08 Maintain electronic service tools and systems for diagnostics and programming	9696.09 Use hoisting and lifting equipment	9696.10 Maintain hoisting and lifting equipment
	9696.11 Perform trade-specific oxy-fuel cutting	9696.12 Use welding equipment	9696.13 Maintain welding equipment		

Competency Analysis Profile: Automotive Service Technician 310S *(All unshaded skill sets must be demonstrated completed)*

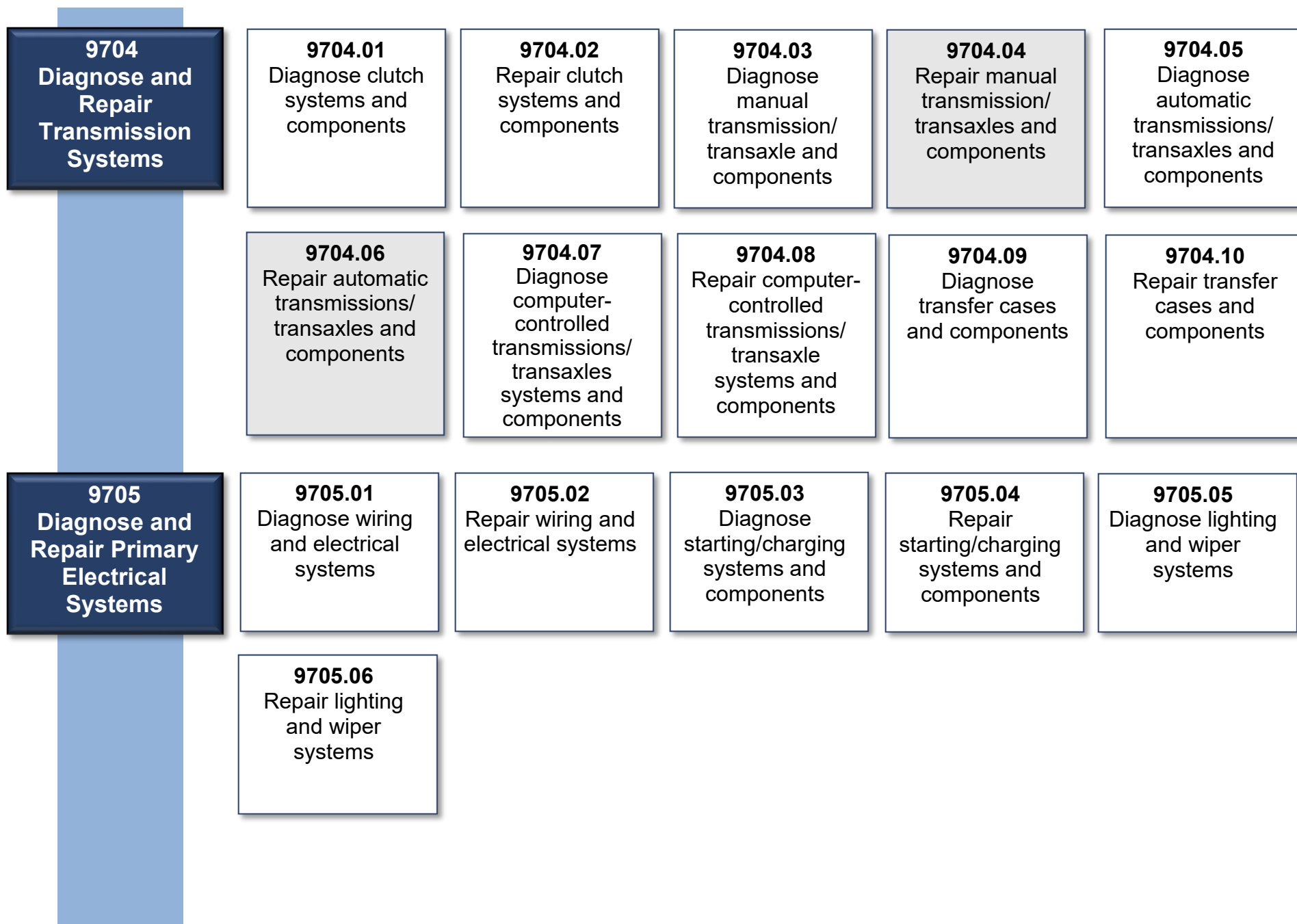


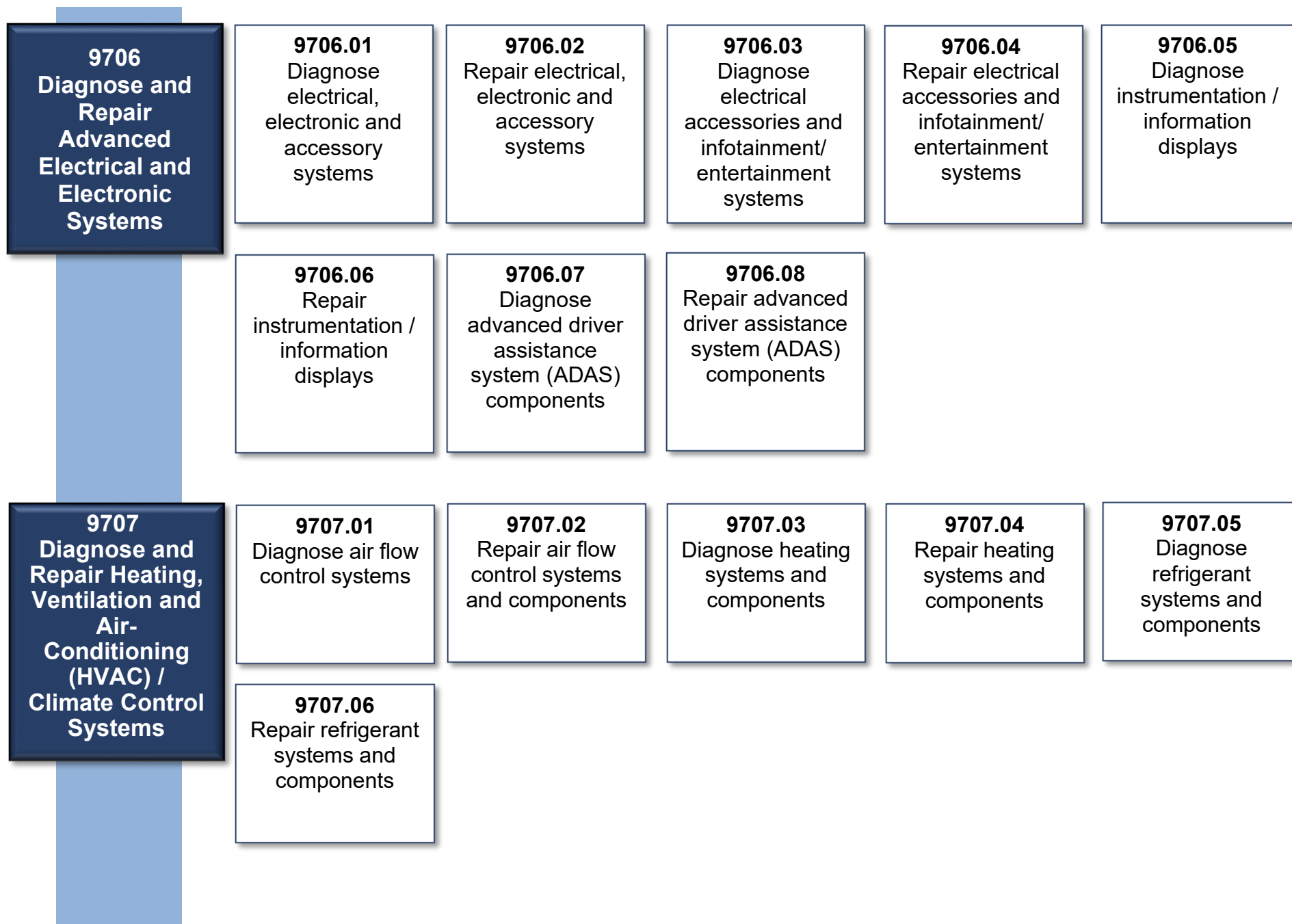


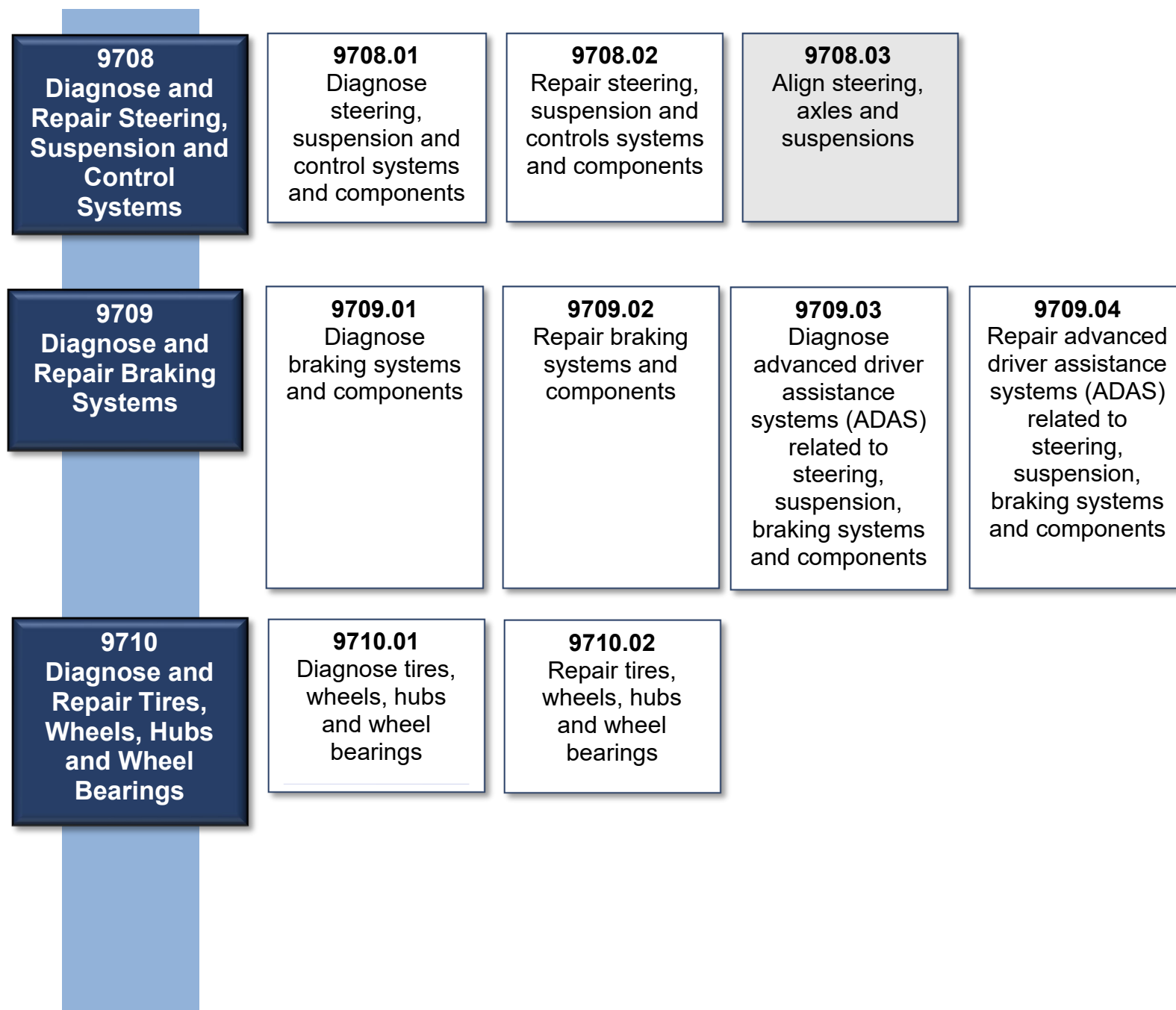
Competency Analysis Profile: Automotive Service Technician 310S *(All unshaded skill sets must be demonstrated completed)*



Competency Analysis Profile: Automotive Service Technician 310S *(All unshaded skill sets must be demonstrated completed)*









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



[SkilledTradesOntario.ca](https://www.skilledtradesontario.ca)



(Automotive Service Technician)