



More skills ... more opportunities

Professional Skills Record

Automotive Service Technician

NOC 7321

ACKNOWLEDGEMENTS

Materials from the *Trade Essentials Manuals* may be reproduced for individual educational purposes only. No part of this material may be reproduced or used for any commercial purpose or sold by any person other than the owner.

This project is the result of the collaboration of the following dedicated adult educational consultants in Prince Edward Island:

Ruth Rogerson
Karen Chandler
Gaelyne MacAulay
Karen Dempsey.

Our sincere thanks to the *Trade Essentials Advisory Committee* for their suggestions, input and ongoing support.

We also recognize the valuable contribution made by the apprentices and challengers who volunteered to participate in this research project. It is our sincere hope that they have gained as much from their participation as we have. We also hope that their contributions will assist many more tradespeople to reach their goals.

We are grateful to the assessors, tutors and classroom instructors who patiently piloted our materials and who gave back invaluable insights and advice.

All Trade Essentials materials have been validated by teams of tradespeople who hold Certificates of Qualification, Red Seal Endorsement. We gratefully acknowledge the crucial contribution made by the following team members:

Glenn Ellsworth (Automotive Service Technician)
Cecil Banks (Automotive Service Technician)
Scott Bagnall (Automotive Service Technician)
Darcy MacKenzie (Automotive Service Technician)
Elmer MacDougall (Cabinet Maker)
Graham Hicken (Cabinet Maker)
Gerard Lund (Carpenter)
Leo MacDonald (Carpenter)
Ryan Rogerson (Carpenter)
Darren Richards (Construction Electrician)
Mark Seaman (Construction Electrician)
Ken Zakem (Cook)
Rod Lukeman (Cook)

Barry Strongman (Industrial Electrician)
Gregg Francis (Industrial Electrician)
Jake Shaw (Machinist)
Sue LeFort (Machinist)
John Hebert (Metal Fabricator / Welder)
Joe Johnson (Metal Fabricator)
Jim Arsenault (Metal Fabricator)
Kent Mitchell (Oil Burner Mechanic / Steamfitter-Pipefitter)
Rod Arsenault (Oil Burner Mechanic / Refrigeration & Air Conditioning
Mechanic)
Kent Mitchell (Plumber)
Scott Carter (Plumber)
Charlie Redmond (Refrigeration & Air Conditioning Mechanic)
Scott Lacey (Steamfitter-Pipefitter)
Vincent Jenkins (Welder)

Thanks to the Apprenticeship Section of the PEI Department of Innovation and Advanced Learning and to the government of Canada's Pan-Canadian Innovation Initiative for financial assistance and for continuing support to trades and apprentices in Canada.

TABLE OF CONTENTS

1	WHY DO I NEED THIS HANDBOOK?	1
2	BUT WE HAVE LOGBOOKS	1
3	WHAT IS A NATIONAL OCCUPATIONAL ANALYSIS (NOA)?	2
4	IF THERE IS AN NOA, WHY DO WE NEED A PROFESSIONAL SKILLS RECORD (PSR)?.....	3
5	AM I EXPECTED TO TEACH ALL THE SKILLS IN A PSR?	4
6	ARE THERE ANY TIPS ON HOW TO BE A GOOD MENTOR TO MY APPRENTICE?	5
6.1	Tips	6
7	SO HOW DO I USE A PROFESSIONAL SKILLS RECORD (PSR) WITH MY APPRENTICE?	7

This handbook is designed to help skilled trades Journeypersons manage the skills and learning of their Apprentices who are using a Professional Skills Record.

1 Why Do I Need this Handbook?

Eighty percent of all learning in a trade happens on the job. This means the apprentice has the responsibility to learn and you, as their journeyperson, have the responsibility to mentor and teach.

Signing off for the learning an apprentice has completed under your supervision is a huge responsibility. With all the skills needed in a trade, it is important that both you and the apprentice have a tool to help you record and sign off on that learning.

2 But We Have Logbooks

When a tradesperson registers as an apprentice in most provinces or territories in Canada, they are given a Logbook.

A Logbook:

- is issued by the apprenticeship authority within a jurisdiction
- is created from the National Occupational Analysis (NOA) in a trade
- is a list of all the general skill areas (**Blocks and Tasks**) in a trade
- records an apprentice's progress in the general skill areas of a trade
- is signed off by a journeyperson to guarantee that an apprentice is performing these tasks to Industry Standard.

A Logbook lists the Blocks and Tasks from the NOA **but** the Interprovincial Red Seal exam and trades training courses in colleges and trade schools use **all** the information in the NOA. This includes the Blocks, Tasks, **Sub-tasks and the Knowledge and Abilities** listed in the NOA.

Each apprentice needs a tool that lists **all** the skills and learning they need in their trade career. Then, if they have one employer or several employers over their entire term of apprenticeship, both the apprentice and the journeyperson know what learning has been completed:

- the journeyperson knows what skills they are signing off to verify what has been taught; and
- the apprentice knows what they need to learn to be successful in their Red Seal exam.

3 What is a National Occupational Analysis (NOA)?

The Canadian Council of Directors of Apprenticeship, which is made up of managers and directors of apprenticeship from every province and territory in Canada, guides a Human Resources and Skills Development Canada (HRSDC) sponsored program to develop NOAs.

Under this partnership, joint planning committees made up of tradespeople who have a Certificate of Qualification, Red Seal endorsement from each province and territory in Canada, come together in Ottawa every four to five years to review and revise the NOA in all of the 45 skilled trades.

Each NOA is accepted as the national standard in that trade. The NOA is then used to:

- identify and group tasks performed by skilled workers in each trade in every province and territory in Canada
- group these tasks by Blocks, Tasks, Sub-tasks, Knowledge, Skills and Abilities (also called "**competencies**") required in a trade
- give information on the breakdown of questions from all sections of the NOA in the Interprovincial Red Seal exam
- create all the questions for the Red Seal exam
- create curriculum for trade school programs and Block Release/Period/Level* programs in a trade.

* *The in-school portion of apprenticeship has several names across Canada. In some provinces and territories it is called Block Release, in others it is called Period Training or Level.*

4 If there is an NOA, why do we need a Professional Skills Record (PSR)?

The NOA is designed to be used for creating curriculum and for developing test questions for the Red Seal exam.

The PSR is designed to be used by an apprentice and a journeyperson in the workplace. The PSR provides a fair and objective assessment tool to record the apprentice's learning and skills.

The PSR has been developed **with** apprentices during a three-year research project on PEI called Trade Essentials. Recommendations made by the apprentices who tested the tool have been built into the document.

The PSR was then validated by teams of tradespeople who have a Certification of Qualification, Red Seal endorsement in each trade who came together and discussed what an apprentice is expected to learn from their journeyperson in the workplace.

The apprentice has the main responsibility for completing the PSR. It is designed as a self-assessment tool so the apprentice can keep track of his/her skills and learning and make plans to fill any technical skills training gaps.

The PSR takes information from the NOA and:

- lays it out in a chart
- lists the percentage and number of questions for the Red Seal exam from each task on every page
- takes the skills from the NOA and describes them in terms of what a tradesperson does on the job, for example:
 - In the **NOA**, the skill says – “knowledge of blueprints and drawings”
 - In the **PSR**, the skill says – “read and interpret blueprints and drawings”
- has a rating chart so the apprentice can judge his/her level of learning and have it all recorded for you to review
- provides you, the journeyperson, with a tool to discuss details of an apprentice's skill areas that are great and areas that may need to improve
- helps the apprentice make a plan so he/she can improve skills
- helps you know what skills you still have to teach the apprentice.

5 Am I expected to teach all the skills in a PSR?

No. A PSR contains **all** the skills and learning a tradesperson has to learn over all their years as an apprentice. You, as their journeyman, can help make this tool useful by completing the sign-off on the learning and skill you know they have. Some of the ways you can assess the skills your apprentice has are:

- **OBSERVATION** – you watch them use their knowledge, skills and abilities or competencies to perform a task or sub-task

For example, you ask them to select a tool for a specific job, then watch them use that tool to do a task.

- **INTERVIEW** – you have a discussion with your apprentice to find out if they can demonstrate an understanding of what they are doing

For example, you ask them to tell you about any safety precautions that have to be followed before they start a certain task.

- **DOCUMENTATION** – an apprentice may have a document that provides proof of skills they already have. You can use the PSR to sign-off on tasks the document covers. The document or certificate could be from:

- another employer,
- a trade school or college,
- an industry training course,
- another province or territory,
- or even from another country.

For example, you need all your employees to be trained in WHMIS. A new apprentice you just hired shows you a WHMIS certificate he/she have from a job they were working on a couple of months ago in northern Canada.

Apprentices will also tell you, through their self-assessments, the best way they think they can prove the skills they have. This can help guide you, as their mentor, to choose a way to assess your apprentice that works best for both of you.

6 Are there any tips on how to be a good mentor to my apprentice?

Mentoring has always been the foundation of apprenticeship. In trades, a mentor is a person who has a great deal of learning and skills from experience in a trade who helps a less experienced person by guiding, teaching and sharing their skills and learning.

Along with having learning and experience in their trade, the most successful mentors are:

- **Patient** - and understand the apprentice needs time to learn and practise their skills to become as good as their mentor.
- **Organized** - and set a schedule to meet regularly with their apprentice to track their learning and make plans for new learning.
- **Positive** - and supportive in helping an apprentice tackle new learning and encourage them to keep working on skills they find difficult to learn.
- **Respectful** - so that other employees in the workplace accept the apprentice and are willing to help and encourage the new apprentice.

As a mentor, you are a role model for your apprentice. To create a successful relationship between you and your apprentice you can:

- **Lead by example.** If you set safety and quality assurance as firsts on your list each and every day, so will your apprentice.
- **Build trust.** If you want your apprentice to trust and respect you, you can show trust in them by assigning them some responsibility as soon as you see an opportunity.
- **Communicate.** Communication is a two-way street. Be willing to listen as you give directions and be available to your apprentice when they need you. Always treat every question seriously. If your apprentice has the confidence to ask, it is important to give a respectful answer.
- **Be reliable.** Your apprentices need to know they can depend on you when they run into a problem. Create supportive relationships with other employees so if you are away from the workplace, your apprentice feels confident in approaching another employee for help.

6.1 Tips

- **Give clear instructions.** When assigning a task and giving direction, give step-by-step instructions, then ask your apprentice to repeat the instructions. This gives them the opportunity to ask questions on things that might not be clear to them.

Checklist for giving instructions:

- ✓ **explain the task**
 - ✓ **show them how it is done**
 - ✓ **answer their questions**
 - ✓ **oversee the work**
 - ✓ **give them time to practise**
 - ✓ **give feedback on how they are doing**
 - ✓ **take time to show them how to do the task better**
- **Give feedback.** Giving feedback often helps your apprentice to have a clear understanding of what you want them to do and how you want them to perform. The PSR helps you to give feedback because each knowledge, skills and ability (competency) statement is clear.

There are three types of feedback that work best in the workplace:

Positive feedback means you want your apprentice to continue what they are doing. People are motivated by hearing they are doing a good job. They usually do more and try harder.

Constructive feedback means you want your apprentice to change how or what they are doing. Offering support and guidance to your apprentice to make the changes you need usually brings the best results.

Direct feedback focuses on what you have seen, not on secondhand information. Focus on how the apprentice is doing and what you have planned for them to do.

- **Give your apprentice experience in many skills.** Sometimes apprentices end up performing the same set of skills over and over again because they are really good at them. They are required to learn the scope of the entire trade during their apprenticeship. If you have the capability, it would be helpful to take advantage of the opportunity to cover a wide range of skills by moving your apprentice from one set of skills to another on a regular basis.
- **Track and Document learning.** Every employer cannot offer an apprentice training in every skill in a trade because each workplace is unique. Some workplaces are specialists in one area of a trade.

As a journeyperson, you have the responsibility to sign off on the skills your apprentice learns under your guidance in your workplace. A PSR can help you identify those skills.

Setting a regular review date once every month or two, and keeping that time just for you and your apprentice, can increase their scope in their trade and increase their knowledge which will be an asset in the workplace.

This meeting time gives you the best opportunity to:

- monitor your apprentice's progress,
- make a plan with him/her to learn more skills, and
- find out if there are any problem areas where he/she may need help.

Regular meeting dates also help your apprentice to be prepared and able to track his/her learning. This can be done by using a Professional Skills Record (PSR).

7 So how do I use a Professional Skills Record (PSR) with my apprentice?

The PSR is laid out in a chart. Each skill your apprentice has to learn has an action word to tell them how they are supposed to perform a skill. It gives you a level you can use to judge whether they are performing that skill properly. **Industry standard** is the term used to describe when your apprentice can complete a task to the level and quality of performance required by industry without assistance or supervision.

When you see the words "demonstrate an understanding of," you may find it easier to ask them questions about the skill to make sure they know what they are doing.

**PROFESSIONAL SKILLS RECORD (PSR)
JOURNEYPERSON'S HANDBOOK**

Your apprentice has the responsibility to complete the "Knowledge, Skills and Abilities – Competencies" section.

When you are sure your apprentice has proven to you they have completed the learning they say they have, you verify it by initialing the sub-task.

Trade Name
IP Exam – 125 Questions
BLOCK A
5% - 6 questions on the IP
<u>Learning Category</u>
OCCUPATIONAL SKILLS
Task 1 – A
3 questions on the IP exam
<u>Learning Outcome</u>
Uses and maintains tools and equipment
Journeyman Sign-off
Task 1
Complete <input style="width: 30px; height: 15px; border: 1px solid black;" type="checkbox"/>
Incomplete <input style="width: 30px; height: 15px; border: 1px solid black;" type="checkbox"/>



Knowledge, Skills and Abilities - Competencies

SUB-TASK 1.01	1.01.01 Identify boring tools	1.01.02 Identify hand cutting tools
<u>Learning Objective</u> Uses hand tools	Rating ____ Complete	Rating ____ Complete
JP Sign-off ____	Proof ____ <input style="width: 20px; height: 15px; border: 1px solid black;" type="checkbox"/>	Proof ____ <input style="width: 20px; height: 15px; border: 1px solid black;" type="checkbox"/>
	Use ____ <input style="width: 20px; height: 15px; border: 1px solid black;" type="checkbox"/>	Use ____ <input style="width: 20px; height: 15px; border: 1px solid black;" type="checkbox"/>



When your apprentice proves to you that he/she has finished enough sub-tasks to have a good grasp of the task, you verify that learning by initialing "complete".



If your apprentice has not completed enough sub-tasks or you do not agree with the ratings they have given themselves, initial "incomplete".

<p>Task I Learning Needs</p> <p>Sub-Tasks <u>Learning Objectives</u> to be completed Comments</p>
--



If you have any sub-tasks you want your apprentice to work on, list them in this section and add any comments you have.

You might

- set a timeframe when you want these skills to improve
- suggest some manuals they could read
- suggest they go to their local college or training school for technical skills help
- suggest they go for help to an adult education facility if they need any academic help, for example, help in math or help in using the code book.

You have now created a learning plan for your apprentice using a PSR.

Your apprentice can then begin working on these sub-tasks or follow up on suggestions you have made to help them be successful in their trade career. By using a PSR, you now have a documented, written performance review that you can use in later sessions with your apprentice.

The PSR can help you give a fair assessment of your apprentice's ability to perform each technical skill task. If you are assigned an apprentice from another employer, province, territory or country, you can use the PSR to review his/her skills so you do not waste your valuable time teaching them skills they already know and can do.

PROFESSIONAL SKILLS RECORD

A tool for recording and recognizing skills and learning of trade apprentices

Automotive Service Technician

NOC 7321

A project of:
The Province of PEI
and
Human Resources and Skills Development Canada



Human Resources and
Skills Development Canada

Ressources humaines et
Développement des compétences Canada

The **Professional Skills Record (PSR)** is a technical skills assessment tool designed to be used in the workplace by an apprentice and a journeyperson. The PSR has taken the content from the National Occupational Analysis (NOA) and arranged it so apprentices can use it to measure their progress in their trade from the time they sign up for apprenticeship through to Red Seal certification.

This PSR has been through a validation process with a team of trade professionals with Certificate of Qualifications, Red Seal endorsement, who reached agreement on the wording of each and every knowledge and skill (*competency*) to make it measurable.

The PSR was originally designed as a tool to help apprentices move through a Recognition for Skills and Learning (RSL) process so they can receive recognition for skills they have, no matter where they learned them. Through completion of a PSR, they can avoid relearning what they already know and can do by entering the apprenticeship Block/Period/Level in-school process at a higher level. For example, move directly into Block/Period/Level three rather than relearning Block/Period/Level One and Two.

Feedback from testing and validation of the PSR has opened many new possibilities for using this tool. The PSR can be used:

- as a tool for valid assessment in a Recognition for Skills and Learning (RSL) process
- as a tool that new Canadians and people planning to emigrate can use, to assess their skills against Canadian standards, receive recognition for skills they already have and, if necessary, make a plan to fill any technical skill gaps they may still have
- in the secondary-school system and in post-secondary trades training so students can know the full scope of the trade they are entering
- as a tool to guide journeypersons while they are mentoring apprentices so they are aware of all the skills apprentices need to learn to be fully competent in their professional trade designation.

INFORMATION SITES:

PROJECT

SITE

CANADIAN

RED SEAL SITE

www.tradeessentials.ca

www.red-seal.ca

TABLE OF CONTENTS

	PAGE
PROFESSIONAL SKILLS RECORD (PSR) Development	ii
Where Technical Trade Learning Happens	iii
Document Record	iv
Prior Learning Assessment and Recognition (PLAR) Recognition for Skills and Learning (RSL)	v
Assessment Standards.....	vi
Professional Skills Record (PSR) Components	ix
How to Self-assess Skills and Learning Using a PSR	xii
How to Record Skills and Learning in a PSR	xiii
Professionals Skills Record (PSR) Assessment Chart	1
 APPENDIX A – NOA GLOSSARY	
 APPENDIX B – REQUIRED ESSENTIAL SKILLS TASKS FOR TRADES	

Automotive Service Technician Trade Information

Name: _____ Full Address: _____
Email Address: _____
Phone: Home _____ Work _____ Cell _____

Technical Skills Journeyperson Assessor/s

Name: _____ Business Name: _____
Phone: Home: _____ Work: _____ Cell: _____ Business Address: _____
Email Address: _____

Name: _____ Business Name: _____
Phone: Home: _____ Work: _____ Cell: _____ Business Address: _____
Email Address: _____

Name: _____ Business Name: _____
Phone: Home: _____ Work: _____ Cell: _____ Business Address: _____
Email Address: _____

Apprenticeship Program Start Date: _____ Completion Date: _____ Red Seal Certification Date: _____

Apprenticeship Training Officer:

Signature: _____

Provincial/Territorial Apprenticeship Manager:

Signature: _____

Province/Territory: _____

Professional Skills Record (PSR) Development

Professional Skills Record (PSR)

The Professional Skills Record (PSR) is designed as a tool of assessment. Learning and skills are validated through the PSR when they are signed off by a journeyperson in the trade in which the apprenticeship is being served.

All skills and learning assessed in this PSR are measured against the standards listed in the National Occupational Analysis (NOA). The NOA is recognized by the Canadian Council of Directors of Apprenticeship (CCDA) as the national standard for the occupation of Automotive Service Technician.

PSR Automotive Service Technician Document Validation

To conduct a reliable assessment through a formal recognition process, skills and learning statements must be measurable. To assess skills and learning using a PSR in the trades, the Knowledge, Skills and Abilities listed in the NOA have been made into measurable competency statements by adding an “action word.” This action word describes the skill and learning level which must be reached by an apprentice on the job in order to meet industry standards. Each PSR has been validated by a trades team, all of whom hold a Certificate of Qualification with Red Seal endorsement, and who reached consensus on each action word used in every knowledge, skill and ability statement.

Where Technical Trade Learning Happens

This Professional Skills Record (PSR) records and recognizes directly related trade technical skills and knowledge learned through:

- **Formal Learning** – structured learning that occurs in formal education and training institutions (for example, high school, trades school, apprenticeship programs, registered union and industry training programs)
- **Non-formal Learning** – learning that happens through planned, structured training or education outside the formal education system (for example, workshops, seminars, community school)
- **Informal/Experiential Learning** – learning that results from experience, occurs outside a structured environment, and is controlled by the learner (for example, experience on-the-job, volunteer work, self-study and life experiences). Informal or experiential learning must be current and essential to the trade.

Definitions: Adopted and/or interpreted from Work-related Informal Learning: Research and Practice in the Canadian Context, CAPLA 2008

Academic Trade Requirement

Trade Designation: Automotive Service Technician National Occupational Classification (NOC) 7321

One of the following prerequisites must be met before writing the Interprovincial Red Seal exam: an academic Grade 12 certificate or a General Education Diploma (GED) or successful assessment in the following Essential Skills.

Essential Skills common to all trades are listed in Appendix B of this document. Specific Essential Skills for the Automotive Service Technician trade are listed on the Red Seal website: www.red-seal.ca. (Once on that site, you will find the Essential Skills Profiles under “National Occupational Analysis.”)

A document can prove valuable learning that is recognized by industry and learning institutions.
Record and save every document earned in industry, trade school or union.

Document Record							
Document Name	Issued By	Place Issued	Date Issued	Evidence of recognition for:			Recognition Awarded
				Block/s <u>Learning Category/s</u> Completed	Task/s <u>Learning Outcome/s</u> Completed	Academic Requirement	

Prior Learning Assessment and Recognition (PLAR). . . Recognition for Skills and Learning (RSL)

PLAR is a formal recognition process in which a variety of tools are used to help people identify, demonstrate and receive recognition for skills and learning they have from the workplace, educational institutions, credentialing organizations or regulatory bodies.

The **Professional Skills Record (PSR)** is a tool designed to assist a trades apprentice to record skills and learning, and then receive recognition for the skills and learning through a PLAR trades process called:

RECOGNITION FOR SKILLS AND LEARNING (RSL)

Traditionally, 80% of learning in a trade happens in the workplace. Through a **Recognition for Skills and Learning (RSL)** process, an apprentice can advance in a trade when they prove they have the required hours, skills and learning for that trade. Proof of skills and learning is **recorded** by the apprentice in a **PSR** and **verified** when signed-off by a journeyman in that trade.

Through the completion of a **PSR**, an apprentice can avoid relearning what they already know and can do. Through an **RSL** process, a trade apprentice can submit a PSR for assessment to:

- advance in Block/Period/Level in-school training by not having to complete a Block/Period/Level in which proof is provided that skills and learning have already been achieved for that Block/Period/Level.
- transfer common skills from one trade to another - **Skills and learning must be transferred prior to writing the Interprovincial Red Seal exam. The same skills and learning cannot be recognized toward certification in two trades.**
- compare skills and learning in a trade from another country to Canadian standards (**as stated in the National Occupational Analysis**) and receive recognition for the skills and learning that meets Canadian standards.

The following assessment indicators (Rating, Proof, Use) have been developed to help record and then assess skills and learning in accordance with the standards of the trade outlined in the National Occupational Analysis (NOA).

Assessment Standard ONE		
Rating: Self-assessment performance rating in the workplace		
Workplace Performance	Rating	Examples of Workplace position/s
Can perform this task and series of sub-tasks: <ul style="list-style-type: none"> - to meet or shorten task timelines - beyond the expected level and quality of performance required by industry - can manage, lead and train others to perform this task and series of sub-tasks 	6	Journeyman with a Certificate of Qualification, Red Seal endorsement and/or Gold Seal tradesperson who is an expert in their field <ul style="list-style-type: none"> - Project Manager/Foreman - Highly skilled and experienced Manager/Supervisor - Expert who comes from industry to serve as an instructor in a trades training program
Can perform this task and series of sub-tasks: <ul style="list-style-type: none"> - to meet or shorten task timelines - to the highest level and quality of performance required by industry - take the initiative to respond to unexpected situations when they arise and supervise others 	5	Highly skilled and experienced journeyman with a Certificate of Qualification, Red Seal endorsement to whom co-workers turn for direction and help
Can perform this task and series of sub-tasks: <ul style="list-style-type: none"> - to meet task timelines - to the highest level and quality required by industry without supervision 	4	Experienced, skilled journeyman with a Certificate of Qualification, Red Seal endorsement
Can perform this task and series of sub-tasks: <ul style="list-style-type: none"> - to the level and quality required by industry without assistance or supervision 	3	Newly certified journeyman with a Certificate of Qualification, Red Seal endorsement
Can perform this task and series of sub-tasks: <ul style="list-style-type: none"> - to the required level and quality of performance with direction, some assistance and supervision 	2	Apprentice working under the direction of a journeyman with a Certificate of Qualification, Red Seal endorsement
Can perform this task and series of sub-tasks: <ul style="list-style-type: none"> - to the required level and quality of performance with assistance and constant supervision 	1	A helper or new apprentice who must work directly under the constant supervision of a journeyman with a Certificate of Qualification, Red Seal endorsement

Proof: Self-assessment options to prove skills and learning have been achieved

Type of Proof – Observation ... Interview ... Documentation

Observation

When you choose “Observation” to prove that you can perform a task, the person who verifies your work must be Red Seal Certified in the trade in which you are an apprentice.

Interview

When you choose “Interview” to prove that you can perform the task, the person who verifies your work must be Red Seal Certified in the trade in which you are an apprentice. In the case of a panel, at least one person on the panel must be Red Seal Certified in the trade in which you are an apprentice.

Documentation

When you choose “Documentation” to prove that you can perform a task, the document must be from a certified training school or from an industry training course. Course content must be part of the requirements of your trade. If the document is from another country, it must be verified as equivalent to Canadian requirements in the trade.

NOTE: Gather all your documents and keep them with your PSR.

Assessment Standard THREE

Use: Self-assessment rating to help make a plan for additional learning and skill updates needed to be successful in achieving goals in a trade

Use of Knowledge, Skills and Abilities – 1 Daily 2 Often 3 Seldom 4 Never

Show how often you use a skill. This will help you to know:

- ◆ what skills you do well because you do them on a regular basis
- ◆ what skills you have to update if you want to transfer to another employer or move to another province or territory
- ◆ what skills you have to get from a training school, industry program or other employer

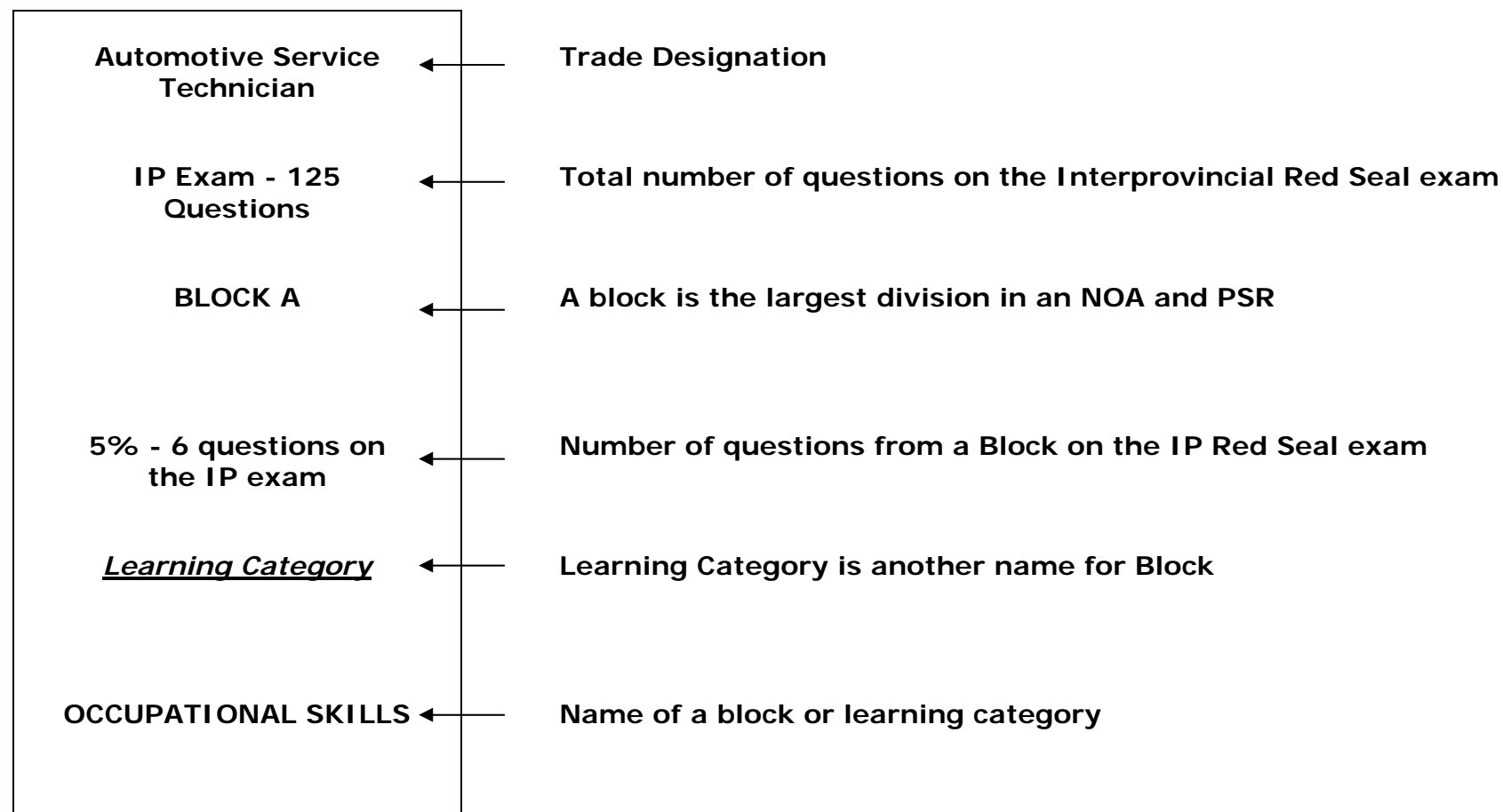
Completing this PSR can help you:

- ◆ know the full scope of your trade by exploring all the technical skills in your trade
- ◆ highlight the skills you already have
- ◆ identify any gaps that you may have to fill so you can be successful in writing your Interprovincial Red Seal certification exam
- ◆ create a plan you can follow to fill these technical skills gaps

Professional Skills Record (PSR) Components

Information from the National Occupational Analysis (NOA) is the foundation document for the Professional Skills Record (PSR). The PSR has been designed so that information is easily found to help a trade apprentice take control and direct his/her own individual skills and learning path.

Information in the PSR includes:



Professional Skills Record (PSR) Components (cont'd)

Task 1 – A

3 questions on the IP exam

Learning Outcome

Uses and maintains tools And equipment

- ← Task Number and Block/Category (letter number)
- ← Number of questions on the IP Red Seal exam from the task
- ← Learning Outcome is another name for a task
- ← Task or learning outcome description

Journey person Sign-off Task 1

Complete

Incomplete

- ← Journey person's initials verify that an apprentice can perform the task to industry standards.
- ← Journey person's initials indicate "incomplete" when the apprentice requires more work because the task is not being performed to industry standards.

Professional Skills Record (PSR) Set-up (cont'd)

Task 1
Learning Needs

Sub-Tasks
Learning Objectives

To be completed
 Comments

Journeyperson lists any Sub-Tasks (Learning Objectives that an apprentice must improve before they can have their Task (Learning Outcome) signed off).



When completed, this column becomes a learning plan for the apprentice.

Sub-Task
1.02

Learning Objective

Uses hoisting and lifting equipment

JP Sign-off _____

← Sub-Task Number

← Learning Objective is another name for sub-task

← Sub-task or learning objective description

← Journeyperson assesses and signs off when the apprentice can perform a sub-task or learning objective to industry standard

How to Self-Assess Skills and Learning Using a PSR

For easier use, the self-assessment charts have been shortened into an assessment key which is located at the top of each two-page section in a PSR. The "3" rating is considered "Industry Standard."

- RATING:**
- 6 - Expert perform a task beyond expected level and quality of performance, lead and/or teach others
 - 5 - Highly skilled perform a task to the highest level and quality of performance, supervise others
 - 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
 - 3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**
 - 2 - Complete a task with some assistance and supervision
 - 1 - Complete task with assistance and constant supervision

TYPE OF PROOF: O - Observation I - Interview D - Documentation

USE: 1 - Daily 2 - Often 3 - Seldom 4 - Never

How to Record Skills and Learning Using a PSR

Self-assessment takes place where the learning of skills takes place in each of the Knowledge, Skills and Abilities. (Knowledge, Skills and Abilities can also be called Competencies).

1.02.01

Determine vehicle lifting points and required adapters and extensions in order to balance vehicle on the hoist to prevent damage to the vehicle and to ensure personnel safety

← Skill and Learning that must meet industry standard.

Rating 5

← Choose and insert a number from the RATING key that best describes your level of performance in the workplace.

Proof I

← Choose and insert a letter from the PROOF key that indicates your best choice to provide proof that you have this knowledge, skill and ability in the trade.

Use 2

← Choose and insert a number from the USE key that indicates how often you use the knowledge, skills and ability (competency).

Complete



← Insert a check mark in the box to indicate completion of the competency to industry standard.

Tips to making sure you get recognition for all your skills and learning:

- take your **time** when you are working on your PSR
- do not try to complete **too much** at any one time
- be **fair and honest** with yourself; remember, this is a **self-assessment** tool
- **focus** on each task (*learning outcome*) and sub-task (*learning objective*)

Automotive Service Technician
IP Exam - 125 Questions

BLOCK A
5% - 6 questions on the IP exam

Learning Category
OCCUPATIONAL SKILLS

Task 1 - A
3 questions on the IP exam

Learning Outcome
Uses and maintains tools and equipment

Journeyperson Sign-off

Complete

Incomplete

Task 1 Learning Needs

Sub-Tasks Learning Objectives
to be completed
Comments

Rating:

6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
3 - Complete a task to the level and quality of performance required by industry without assistance or supervision
2 - Complete a task with some assistance and supervision
1 - Complete task with assistance and constant supervision

Type of Proof: O - Observation I - Interview D - Documentation

Use: 1 - Daily 2 - Often 3 - Seldom 4 - Never

Knowledge, Skills and Abilities - Competencies

SUB-TASK 1.01 <u>Learning Objective</u> Maintains tools and equipment JP Sign-off ____	1.01.01 Store and organize tools and equipment Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	1.01.02 Inspect tools and equipment regularly to recognize wear, damage or defects Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	1.01.03 Lubricate tools and equipment Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	
	SUB-TASK 1.02 <u>Learning Objective</u> Uses hoisting and lifting equipment JP Sign-off ____	1.02.01 Determine vehicle lifting points and required adapters and extensions in order to balance vehicle on the hoist to prevent damage to the vehicle and to ensure personnel safety Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	1.02.02 Determine equipment capacity in relation to the vehicle or item to be lifted Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	1.02.03 Apply safety practices specific to hoisting and lifting procedures Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
SUB-TASK 1.03 <u>Learning Objective</u> Uses PPE and safety equipment JP Sign-off ____	1.03.01 Inspect and maintain PPE and safety equipment Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	1.03.02 Recognize worksite hazards that require the use of PPE and safety equipment Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	1.03.03 Select PPE and safety equipment required for specific tasks Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	1.03.04 Apply local, provincial and national safety regulations such as WHMIS Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____

Task 2 - A
3 questions on the IP exam

Learning Outcome
Performs common trade activities

Journeyperson
 Sign-off
 Task 2

Complete

Incomplete

Task 2 Learning Needs

Sub-Tasks Learning Objectives
 to be completed
 Comments

Knowledge, Skills and Abilities - Competencies

SUB-TASK 2.01 <u>Learning Objective</u> Uses technical information JP Sign-off _____	2.01.01 Utilize industry specific software and computer practices to access technical diagnostic and repair information Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	2.01.02 Locate required information by category and keyword searches Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	2.01.03 Interpret and apply technical information to situation Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	2.01.04 Create documents such as repair orders, estimates and maintenance reports Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	
	SUB-TASK 2.02 <u>Learning Objective</u> Estimates preliminary job cost JP Sign-off _____	2.02.01 Utilize industry specific and proprietary software to determine labour costs and parts costs Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	2.02.02 Determine amount of time required to complete a job Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	2.02.03 Determine price of parts needed to complete a job Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	2.02.04 Calculate total estimated cost Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	SUB-TASK 2.03 <u>Learning Objective</u> Maintains safe work environment JP Sign-off _____	2.03.01 Recognize worksite hazards that require the use of PPE and safety equipment Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	2.03.02 Recognize potential hazards such as noise level, air quality, and flammable and explosive materials Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	2.03.03 Apply local, provincial and national safety regulations such as WHMIS Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	2.03.04 Clean, handle, remove and dispose of hazardous materials such as air bags, batteries and shocks according to jurisdictional regulations Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
		2.02.05 Coordinate with other staff such as partspersons, suppliers, service advisors and cashiers Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____			
					2.03.05 Perform visual inspection of vehicles and surrounding work area Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____

Automotive Service Technician

BLOCK B
18% - 22 questions on the IP exam

Learning Category
ENGINE AND ENGINE SUPPORT SYSTEMS

Task 3 - B
6 questions on the IP exam

Learning Outcome
Diagnoses engine systems

Journey person Sign-off Task 3

Complete

Incomplete

Task 3 Learning Needs

Sub-Tasks Learning Objectives to be completed
Comments

- Rating:**
- 6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
 - 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
 - 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
 - 3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**
 - 2 - Complete a task with some assistance and supervision
 - 1 - Complete task with assistance and constant supervision

Type of Proof: O - Observation I - Interview D - Documentation

Use: 1 - Daily 2 - Often 3 - Seldom 4 - Never

Knowledge, Skills and Abilities - Competencies

SUB-TASK 3.01 <u>Learning Objective</u> Diagnoses cooling systems JP Sign-off ____	3.01.01 Inspect components for wear, damage and defects Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	3.01.02 Analyze coolant conditions (concentration, chemistry and contamination) using procedures such as acidity test, visual inspection and freeze point test Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	3.01.03 Select and use diagnostic tools and equipment such as pressure testers, coolant strength testers and infrared temperature guns Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	3.01.04 Identify restrictions in air and coolant flow Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	3.01.05 Check for operation of water pump and thermostat Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	3.01.06 Check electronically-controlled system operation for conditions such as blown fuses, seized motors, broken wires, and sensors out of range or blown Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	3.01.07 Check mechanical system operation for conditions such as malfunctioning fan and belt slippage and incorrect routing Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	3.01.08 Pressurize cooling and pressure relating devices such as radiator pressure cap in order to test their ability to maintain required operating pressures and to locate leaks in system Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	3.01.09 Interpret and analyze results of functional tests and inspections to determine required repair Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	
SUB-TASK 3.02 <u>Learning Objective</u> Diagnoses lubricating systems JP Sign-off ____	3.02.01 Inspect lubricant for contamination and levels Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	3.02.02 Inspect components for leaks, and failed gaskets and seals Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	3.02.03 Select and use diagnostic tools and equipment such as pressure gauge, and black light and dye Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	3.02.04 Take oil pressure readings at different operating temperatures Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	3.02.05 Interpret and analyze results of functional tests and inspections to determine required repair Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____

**Task 3 - B
(cont'd)**

Learning Outcome
Diagnoses engine systems

**Task 3
Learning Needs**

Sub-Tasks
Learning Objectives
to be completed
Comments

Knowledge, Skills and Abilities - Competencies

<p>SUB-TASK 3.03</p> <p><u>Learning Objective</u> Diagnoses base engine</p> <p>JP Sign-off _____</p>	<p>3.03.01 Select and use diagnostic tools such as scan tool, compression testers and measuring tools</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>3.03.02 Perform tests such as cylinder leak-down, compression and vacuum</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>3.03.03 Identify and distinguish sources of noises, vibrations and harshness (NVH) in engine components such as valve train, pistons and crankshaft</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>3.03.04 Recognize worn, damaged, and defective components such as worn camshafts, bearings and rings</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>3.03.05 Inspect valve timing and adjustment</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>3.03.06 Take measurements of base engine components and compare to manufacturers' specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>3.03.07 Interpret and analyze results of functional tests and inspections to determine required repair</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>			

Task 4 - B
5 questions on the IP exam
Learning Outcome
Repairs engine systems

Journeyperson
 Sign-off
 Task 4

Complete

Incomplete

Task 4 Learning Needs

Sub-Tasks Learning Objectives
 to be completed
 Comments

- Rating:**
- 6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
 - 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
 - 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
 - 3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**
 - 2 - Complete a task with some assistance and supervision
 - 1 - Complete task with assistance and constant supervision

Type of Proof: O - Observation I - Interview D - Documentation

Use: 1 - Daily 2 - Often 3 - Seldom 4 - Never

Knowledge, Skills and Abilities - Competencies

SUB-TASK 4.01 <u>Learning Objective</u> Repairs cooling systems JP Sign-off ____	4.01.01 Select and use repair tools and equipment such as pressure testers and automated refill devices Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	4.01.02 Select repair parts and materials such as gaskets, sealants and fastening devices according to repair requirements and manufacturers' specifications Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	4.01.03 Remove and replace cooling system components such as radiators, hoses, gaskets, thermostats and water pumps Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	4.01.04 Distinguish types and characteristics of coolants in order to avoid mixing incompatible types and to ensure required concentrations Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	4.01.05 Drain, flush, refill and bleed coolant system Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____
	4.01.06 Complete repair by verifying system's function and performance Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____				
SUB-TASK 4.02 <u>Learning Objective</u> Repairs lubricating systems JP Sign-off ____	4.02.01 Select and use repair tools and equipment such as plastic gauge, oil pressure gauge and measuring tools Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	4.02.02 Select repair parts and materials such as gaskets, sealants and fastening devices according to repair requirements and manufacturers' specifications Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	4.02.03 Remove, replace, recondition or service components as per manufacturers' procedures and specifications Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	4.02.04 Identify and select specified lubricants Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	4.02.05 Identify and select specified sealants Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____
	4.02.06 Take final base engine measurements to ensure correct oil pressure Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	4.02.07 Perform maintenance procedures such as changing oil and filter Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	4.02.08 Perform priming and prelubrication of oil pressure system Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	4.02.09 Complete repair by verifying system's function and performance Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	

**Task 4 - B
(cont'd)**

Learning Outcome
Repairs engine systems

**Task 4
Learning Needs**

**Sub-Tasks
Learning Objectives**
to be completed
Comments

Knowledge, Skills and Abilities - Competencies

<p>SUB-TASK 4.03</p> <p><u>Learning Objective</u> Repairs base engine</p> <p>JP Sign-off _____</p>	<p>4.03.01 Select and use repair tools and equipment such as hand tools, plastic gauge, straight edge and micrometer</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>4.03.02 Select repair parts and materials such as gaskets, sealants and fastening devices according to repair requirements and manufacturers' specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>4.03.03 Remove, disassemble and inspect engine components for conditions such as damage and wear</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>4.03.04 Remove, replace, recondition or service components as per manufacturers' procedures and specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>4.03.05 Reassemble engine components and perform measurements</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>4.03.06 Torque components according to sequence and specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>4.03.07 Perform mechanical engine timing procedures</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>4.03.08 Adjust base engine components and parts</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>4.03.09 Perform pre-lubrication and priming procedures</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>4.03.10 Install engine and engine components</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>4.03.11 Complete repair by verifying system's function and performance</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>				

5 - B
6 questions on the IP exam
Learning Outcome
Diagnoses engine support systems

Journeyperson
 Sign-off
 Task 5
 Complete
 Incomplete

Task 5 Learning Needs
Sub-Tasks Learning Objectives
 to be completed
 Comments

Rating:
 6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
3 - Complete a task to the level and quality of performance required by industry without assistance or supervision
 2 - Complete a task with some assistance and supervision
 1 - Complete task with assistance and constant supervision

Type of Proof: O - Observation I - Interview D - Documentation

Use: 1 - Daily 2 - Often 3 - Seldom 4 - Never

Knowledge, Skills and Abilities - Competencies

SUB-TASK 5.01 <u>Learning Objective</u> Diagnoses fuel delivery systems JP Sign-off ____	5.01.01 Select and use tools and equipment such as fuel pressure gauges, scan tool, vacuum gauges and digital voltage ohmmeter (DVOM) Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	5.01.02 Identify type of fuel delivery systems such as sequential and non-sequential fuel systems Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	5.01.03 Inspect and test fuel properties such as quality, colour and odour Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	5.01.04 Perform fuel system tests such as pressure, volume and fuel injector flow Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	5.01.05 Isolate fuel system problems such as engine misfires and lack of power Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	5.01.06 Interpret and analyze results of functional tests and inspections to determine required repair Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____				
SUB-TASK 5.02 <u>Learning Objective</u> Diagnoses ignition systems JP Sign-off ____	5.02.01 Select and use tools and equipment such as meters, scan tool and spark testers Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	5.02.02 Perform ignition measurements such as coil, primary and secondary circuits Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	5.02.03 Inspect ignition system components for wear and damage Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	5.02.04 Perform ignition system tests such as spark duration and timing Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	5.02.05 Interpret and analyze results of functional tests and inspections to determine required repair Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	5.03.01 Select and use tools and equipment such as scan tool, vacuum gauge and exhaust back pressure gauge Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____				
SUB-TASK 5.03 <u>Learning Objective</u> Diagnoses intake/exhaust systems JP Sign-off ____	5.03.02 Inspect intake and exhaust systems for leaks or blockages Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____		5.03.03 Take measurements on turbo superchargers such as end play and boost Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	5.03.04 Interpret and analyze results of functional tests and inspections to determine required repair Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	

**5 - B
(cont'd)**

Learning Outcome
Diagnoses engine support systems

**Task 5
Learning Needs**

**Sub-Tasks
Learning Objectives
to be completed
Comments**

Knowledge, Skills and Abilities - Competencies

<p>SUB-TASK 5.04</p> <p><u>Learning Objective</u> Diagnoses emission systems</p> <p>JP Sign-off _____</p>	<p>5.04.01 Select and use tools and equipment such as scan tool and EVAP leak detectors</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>5.04.02 Determine vehicle's type of emission system and components</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>5.04.03 Inspect emission system to identify condition and functionality of components</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>5.04.04 Test emission control systems such as EGR, EVAP and PCV</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>5.04.05 Access fault codes such as OBD I and OBD II diagnostic codes</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>5.04.06 Interpret and analyze results of functional tests and inspections to determine required repair</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>				
<p>SUB-TASK 5.05</p> <p><u>Learning Objective</u> Diagnoses accessory drive systems and mounts</p> <p>JP Sign-off _____</p>	<p>5.05.01 Select and use tools and equipment such as infrared temperature guns, laser tool and straight edge</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>5.05.02 Check accessory drive pulley alignment</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>5.05.03 Identify type of drive pulley system such as double-edged serpentine and V-belt</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>5.05.04 Identify cause of noise and vibration</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>5.05.05 Measure belt tension against manufacturers' specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>5.05.06 Inspect mounts for damage and wear</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>5.05.07 Interpret and analyze results of functional tests and inspections to determine required repair</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>			

5 - B
(cont'd)

Learning Outcome
Diagnoses engine support
systems

Task 5
Learning Needs

Sub-Tasks
Learning Objectives
to be completed
Comments

Rating:

- 6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
- 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
- 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
- 3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**
- 2 - Complete a task with some assistance and supervision
- 1 - Complete task with assistance and constant supervision

Type of Proof: O - Observation I - Interview D - Documentation

Use: 1 - Daily 2 - Often 3 - Seldom 4 - Never

Knowledge, Skills and Abilities - Competencies

<p style="text-align: center;">SUB-TASK 5.06</p> <p style="text-align: center;"><u>Learning Objective</u> Diagnoses diesel engine support systems</p> <p>JP Sign-off _____</p>	<p>5.06.01 Select and use tools and equipment such as fuel pressure gauges, vacuum gauges, scan tool, pyrometer and DVOM</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>5.06.02 Identify type of diesel fuel delivery systems such as direct injection, indirect (pre-combustion) injection and common rail systems</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>5.06.03 Follow pressure-handling procedures for testing diesel fuel systems in order to attain a safe pressure according to manufacturers' specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>5.06.04 Inspect and test diesel fuel properties such as quality, colour and odour</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>5.06.05 Perform diesel fuel system tests such as pressure, volume and restriction</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>5.06.06 Check diesel system parameters such as timing and fuel rate</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>5.06.07 Isolate diesel system problems such as engine misfires and lack of power</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>5.06.08 Check condition of pre-heating components such as glow plugs, air heaters and fuel heaters</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>5.06.09 Test diesel particulate filters for conditions such as inlet and outlet temperatures and pressures using a scan tool</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>5.06.10 Interpret and analyze results of functional tests and inspections to determine required repair</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>

6 - B
5 questions on the IP exam

Learning Outcome
Repairs engine support systems

Journeyperson
 Sign-off
 Task 6

Complete

Incomplete

Task 6 Learning Needs

Sub-Tasks Learning Objectives
 to be completed
 Comments

Knowledge, Skills and Abilities - Competencies

SUB-TASK 6.01 <u>Learning Objective</u> Repairs gasoline delivery systems JP Sign-off _____	6.01.01 Select and use repair tools and equipment such as fuel pressure gauge, fuel pressure relief device, and fuel transfer and storage equipment Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	6.01.02 Select repair parts and materials such as gaskets, sealants and fastening devices according to repair requirements and manufacturers' specifications Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	6.01.03 Remove, clean and replace fuel system components such as fuel filters, injectors and pumps Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	6.01.04 Perform fuel system maintenance procedures such as fuel injector flushes Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	6.01.05 Complete repair by verifying system's function and performance Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	SUB-TASK 6.02 <u>Learning Objective</u> Repairs ignition systems JP Sign-off _____	6.02.01 Select and use tools and equipment such as can tool, hand tools, gauges and spark plug gappers Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	6.02.02 Select repair parts and materials such as gaskets, sealants and fastening devices according to repair requirements and manufacturers' specifications Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	6.02.03 Remove, replace, reconditioning or service components as per manufacturers' procedures and specifications Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	6.02.04 Measure and adjust clearances such as spark plug gap and sensor clearances Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
SUB-TASK 6.03 <u>Learning Objective</u> Repairs intake/ exhaust systems JP Sign-off _____	6.03.01 Select and use tools and equipment such as scan tool, hand tools, torches, MIG welders and pressure relief devices Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	6.03.02 Select repair parts and materials such as gaskets, sealants and fastening devices according to repair requirements and manufacturers' specifications Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	6.03.03 Remove and replace intake/exhaust systems components such as manifolds, mufflers and intercoolers Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	6.03.04 Prime, lubricate and service turbo superchargers Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	6.03.05 Maintain intake system such as cleaning throttle valve, servicing mass airflow sensors and replacing air filter Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	6.03.06 Complete repair by verifying system's function and performance Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____				

6 - B
(cont'd)

Learning Outcome
Repairs engine support
systems

Rating: 6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
3 - Complete a task to the level and quality of performance required by industry without assistance or supervision
2 - Complete a task with some assistance and supervision
1 - Complete task with assistance and constant supervision

Type of Proof: O - Observation I - Interview D - Documentation

Use: 1 - Daily 2 - Often 3 - Seldom 4 - Never

Knowledge, Skills and Abilities - Competencies

Task 6
Learning Needs

Sub-Tasks
Learning Objectives
to be completed
Comments

<p>SUB-TASK 6.04</p> <p><u>Learning Objective</u> Repairs emission systems</p> <p>JP Sign-off _____</p>	<p>6.04.01 Select and use tools and equipment such as hand tools, scan tool and leak detection equipment</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>6.04.02 Select repair parts and materials such as gaskets, sealants and fastening devices according to repair requirements and manufacturers' specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>6.04.03 Remove and replace emission system components such as sensors, valves and modules</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>6.04.04 Maintain emission system such as cleaning EGR valves/passages and replacing filters</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>6.04.05 Complete repair by verifying system's function and performance</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>SUB-TASK 6.05</p> <p><u>Learning Objective</u> Repairs accessory drive systems and mounts</p> <p>JP Sign-off _____</p>	<p>6.05.01 Select and use tools and equipment such as scan tool, hand tools, tension relief devices, pullers and installers</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>6.05.02 Select repair parts and materials such as gaskets, sealants and fastening devices according to repair requirements and manufacturers' specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>6.05.03 Remove and replace accessory drive system components such as tensioners, belts and pulleys</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>6.05.04 Remove and replace mounts</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>6.05.06 Complete repair by verifying system's function and performance</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>				

6 - B
(cont'd)

Learning Outcome
Repairs engine support
systems

Task 6
Learning Needs

Sub-Tasks
Learning Objectives
to be completed
Comments

Knowledge, Skills and Abilities - Competencies

<p>SUB-TASK 6.06</p> <p><u>Learning Objective</u> Repairs diesel engine support systems</p> <p>JP Sign-off _____</p>	<p>6.06.01 Select and use repair tools and equipment such as hand tools, specialized pressure gauges and scan tool</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>6.06.02 Select repair parts and materials such as gaskets, sealants and fastening devices according to repair requirements and manufacturers' specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>6.06.03 Depressurize diesel system in order to remove and disassemble system</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>6.06.04 Remove, disassemble and inspect diesel fuel system for conditions such as damage and wear</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>6.06.05 Clean and repair diesel fuel system components such as high pressure lines</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>6.06.06 Fit and replace diesel fuel system components and parts</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>6.06.07 Reassemble diesel system components and perform measurements</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>6.06.08 Torque components according to sequence and specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>6.06.09 Pressurize and bleed system</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>6.06.10 Perform diesel fuel system timing procedures</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>6.06.11 Complete repair by verifying system's function and performance</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>				

Automotive Service Technician

BLOCK C
16% - 20 questions on the IP exam

Learning Category
VEHICLE MANAGEMENT SYSTEMS

Task 7 - C
13 questions on the IP exam

Learning Outcome
Diagnoses vehicle management systems

Journey person
Sign-off
Task 7

Complete

Incomplete

Task 7 Learning Needs

Sub-Tasks Learning Objectives
to be completed
Comments

Rating:

6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
 3 - **Complete a task to the level and quality of performance required by industry without assistance or supervision**
 2 - Complete a task with some assistance and supervision
 1 - Complete task with assistance and constant supervision

Type of Proof: O - Observation I - Interview D - Documentation

Use: 1 - Daily 2 - Often 3 - Seldom 4 - Never

Knowledge, Skills and Abilities - Competencies

SUB-TASK 7.01 <u>Learning Objective</u> Reads diagnostic trouble codes (DTCs) JP Sign-off ____	7.01.01 Distinguish between OBD I and OBD II diagnostic systems to determine tools used, data link connection (DLC) location and system operation Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	7.01.02 Select and use scan tool to read codes such as powertrain control module (PCM) and transmission control module (TCM) Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	7.01.03 Perform functional tests to find on-demand codes Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	7.01.04 Refer to manufacturers' diagnostic sequence for code definition Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	
	SUB-TASK 7.02 <u>Learning Objective</u> Monitors parameters JP Sign-off ____	7.02.01 Select and use scan tool to monitor parameters such as TPS, EGR and intake air temperature (IAT) Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	7.02.02 Use DVOM to monitor parameters Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	7.02.03 Select and organize relevant parameters to compare results Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	7.02.04 Record parameters for playback to aid with diagnosis Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
		SUB-TASK 7.03 <u>Learning Objective</u> Interprets test results JP Sign-off ____	7.03.01 Interpret relative parameters to compare results with manufacturers' specifications Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	7.03.02 Determine faulty circuitry and components Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	7.03.03 Refer to recorded parameters to assist in diagnosis Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
			SUB-TASK 7.04 <u>Learning Objective</u> Tests system circuitry and components JP Sign-off ____	7.04.01 Select and use tools such as DVOM, jumper wires, circuit tester and break-out box to test system circuitry and components such as wiring, sensors and modules according to manufacturers' specifications Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	7.04.02 Determine faulty circuitry and components Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____

8 - C
7 questions on the IP exam
Learning Outcome
Repairs vehicle management systems

Journeyperson
 Sign-off
 Task 8
 Complete
 Incomplete

Task 8 Learning Needs
Sub-Tasks
Learning Objectives
 to be completed
 Comments

Knowledge, Skills and Abilities - Competencies

SUB-TASK 8.01 <u>Learning Objective</u> Updates component software JP Sign-off ____	8.01.01 Select and use scan tool to update module software Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	8.01.01 Program modules using manufacturers' specifications and updated documentation such as service bulletins Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	8.01.03 Configure modules according to vehicle requirements and options Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	8.01.04 Verify operation of updated modules Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	
	SUB-TASK 8.02 <u>Learning Objective</u> Replaces components JP Sign-off ____	8.02.02 Select and use tools and equipment such as hand tools, scan tool and specialized tools Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	8.02.02 Follow vehicle-specific cautionary procedures such as using anti-static straps and disabling restraint systems Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	8.02.03 Transfer module-specific data to component Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	8.02.04 identify and install compatible electronic components according to the vehicle specifications Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	SUB-TASK 8.03 <u>Learning Objective</u> Verifies vehicle management system repair JP Sign-off ____	8.03.01 Perform road test completing a OBD II drive cycle Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	8.03.02 Perform road test for OBD I vehicles Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	8.03.03 Select and use scan tool to verify and confirm system repair Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	

Automotive Service Technician

BLOCK D
14% - 17 questions on the IP exam

Learning Category
DRIVE LINE SYSTEMS

9 - D
9 questions on the IP exam

Learning Outcome
Diagnoses drive line systems

Journeyperson Sign-off Task 9

Complete

Incomplete

Task 9 Learning Needs

Sub-Tasks Learning Objectives
to be completed
Comments

Rating:

6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
3 - Complete a task to the level and quality of performance required by industry without assistance or supervision
 2 - Complete a task with some assistance and supervision
 1 - Complete task with assistance and constant supervision

Type of Proof: O - Observation I - Interview D - Documentation

Use: 1 - Daily 2 - Often 3 - Seldom 4 - Never

Knowledge, Skills and Abilities - Competencies

SUB-TASK 9.01 <u>Learning Objective</u> Diagnoses drive shafts and axles JP Sign-off ____	9.01.01 Perform road test to identify drive shaft and axle concerns such as vibrations and noises Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	9.01.02 Select and use diagnostic tools such as sirometer, inclinometer, dial indicator and hand tools Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	9.01.03 Identify type of drive shaft and axle system such as single or multiple piece drive shaft, constant velocity (CV), full-floating and semi-floating axles Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	9.01.04 Inspect vehicle's drive shaft and axle components in accordance with manufacturers' specifications and inspection procedures Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	9.01.05 Perform functional tests as per manufacturers' procedures and specifications Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	9.01.06 Interpret and analyze results of functional tests and inspections to determine required repair Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____				
SUB-TASK 9.02 <u>Learning Objective</u> Diagnoses manual transmissions/transaxles JP Sign-off ____	9.02.01 Perform road test to identify manual transmission/transaxle concerns such as vibrations, noises and driveability Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	9.02.02 Select and use diagnostic tools such as sirometer, stethoscope and hand tools Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	9.02.03 Identify model of manual transmission/transaxle Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	9.02.04 Check fluid level and condition, inspect for leaks or damage Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	9.02.05 Inspect manual transmission/transaxle components in accordance with manufacturers' specifications and inspection procedures Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	9.02.06 Interpret and analyze results of functional tests and inspections to determine required repair Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____				

9 - D
(cont'd)

Learning Outcome
Diagnoses drive line
systems

Task 9
Learning Needs

Sub-Tasks
Learning Objectives
to be completed
Comments

Knowledge, Skills and Abilities - Competencies

<p>SUB-TASK 9.03</p> <p><u>Learning Objective</u> Diagnoses automatic transmission/ transaxles</p> <p>JP Sign-off _____</p>	<p>9.03.01 Perform road test to identify automatic transmission/ transaxle concerns such as vibrations, noises and driveability</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>9.03.02 Identify model of automatic transmission/transaxle</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>9.03.03 Check fluid level and condition and inspect for leaks or damage</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>9.03.04 Select and use diagnostic tools such as pressure gauge, scan tool and hand tools</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>9.03.05 Inspect automatic transmission/ transaxle components in accordance with manufacturers' specifications and inspection procedures</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>9.03.06 Perform functional tests as per manufacturers' procedures and specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>9.03.07 Inspect and test electrical components such as solenoid, switches and pressure sensors</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>9.03.08 Interpret and analyze results of functional tests and inspections to determine required repair</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>		
<p>SUB-TASK 9.04</p> <p><u>Learning Objective</u> Diagnoses clutches</p> <p>JP Sign-off _____</p>	<p>9.04.01 Perform road test to identify clutch concerns such as slippage, vibrations, odour and driveability</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>9.04.02 Identify type of clutch control such as manual or hydraulic</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>9.04.03 Check fluid level and condition and inspect for leaks or adjustment</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>9.04.04 Inspect clutch components in accordance with manufacturers' specifications and inspection procedures</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>9.04.05 Interpret and analyze results of functional tests and inspections to determine required repair</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>9.05.01 Perform road test to identify transfer case concerns such as vibrations, noises and driveability</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>9.05.02 Identify model of transfer case</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>9.05.03 Check fluid level and condition and inspect for leaks or damage</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>9.05.04 Select and use diagnostic tools such as scan tool and hand tools</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>9.05.05 Inspect transfer case components in accordance with manufacturers' specifications and inspection procedures</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>9.05.06 Perform functional tests as per manufacturers' procedures and specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>9.05.07 Interpret and analyze results of functional tests and inspections to determine required repair</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>			

**9 - D
(cont'd)**

Learning Outcome
Diagnoses drive line systems

Rating:

6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
3 - Complete a task to the level and quality of performance required by industry without assistance or supervision
 2 - Complete a task with some assistance and supervision
 1 - Complete task with assistance and constant supervision

Type of Proof: O - Observation I - Interview D - Documentation

Use: 1 - Daily 2 - Often 3 - Seldom 4 - Never

Knowledge, Skills and Abilities - Competencies

**Task 9
Learning Needs**

Sub-Tasks
Learning Objectives
to be completed
Comments

SUB-TASK 9.06 <u>Learning Objective</u> Diagnoses final drive assemblies JP Sign-off ____	9.06.01 Perform road test to identify final drive concerns such as vibrations, noises and driveability Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	9.06.02 Identify type and model of final drive assembly Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	9.06.03 Check fluid level and condition, inspect for leaks or damage Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	9.06.04 Select and use diagnostic tools such as scan tool, chassis ears and hand tools Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	9.06.05 Inspect final drive assembly components in accordance with manufacturers' specifications and inspection procedures Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	9.06.06 Perform functional tests as per manufacturers' procedures and specifications Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	9.06.07 Interpret and analyze results of functional tests and inspections to determine required repair Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____			

10 - D
9 questions on the IP exam
Learning Outcome
Repairs drive line systems

Journey person
 Sign-off
 Task 10
 Complete
 Incomplete

Task 10 Learning Needs
Sub-Tasks Learning Objectives
 to be completed
 Comments

Knowledge, Skills and Abilities - Competencies

<p>SUB-TASK 10.01</p> <p><u>Learning Objective</u> Repairs drive shafts and axles</p> <p>JP Sign-off _____</p>	<p>10.01.01</p> <p>Determine type of drive shafts and axle systems such as U-joint, CV joint, full-floating and semi-floating</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>10.01.02</p> <p>Select and use service tools such as measuring tools, presses and hand tools</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>10.01.03</p> <p>Select repair parts and materials such as gaskets, seals and lubricants according to repair requirements and manufacturers' specifications</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>10.01.04</p> <p>Remove, replace, recondition or service components as per manufacturers' procedures and specifications</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>10.01.05</p> <p>Complete repair by verifying system's function and performance</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	
	<p>SUB-TASK 10.02</p> <p><u>Learning Objective</u> Repairs manual transmissions/transaxles</p> <p>JP Sign-off _____</p>	<p>10.02.01</p> <p>Determine model of manual transmission/transaxles</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>10.02.02</p> <p>Select and use service tools such as measuring tools, presses and hand tools</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>10.02.03</p> <p>Select repair parts and materials such as gaskets, seals and lubricants according to repair requirements and manufacturers' specifications</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>10.02.04</p> <p>Remove, disassemble, reassemble, replace, recondition or service components as per manufacturers' procedures and specifications</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>10.02.05</p> <p>Complete repair by verifying system's function, driveability and performance</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>
	<p>SUB-TASK 10.03</p> <p><u>Learning Objective</u> Repairs automatic transmissions/transaxles</p> <p>JP Sign-off _____</p>	<p>10.03.01</p> <p>Determine type of automatic transmissions/transaxles such as CVT, electronically and manually controlled</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>10.03.02</p> <p>Select and use service tools such as scan tool, pressure gauges, measuring tools, presses and hand tools</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>10.03.03</p> <p>Select repair parts and materials such as gaskets, seals and lubricants according to repair requirements and manufacturers' specifications</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>10.03.04</p> <p>Remove, disassemble, reassemble, replace, recondition or service components as per manufacturers' procedures and specifications</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>10.03.05</p> <p>Complete repair by verifying system's function, driveability and performance</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>
	<p>SUB-TASK 10.04</p> <p><u>Learning Objective</u> Repairs clutches</p> <p>JP Sign-off _____</p>	<p>10.04.01</p> <p>Determine type of clutch such as single and multi-disc systems</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>10.04.02</p> <p>Select and use service tools such as measuring tools, presses and hand tools</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>10.04.03</p> <p>Select repair parts and materials such as fluids, seals and lubricants according to repair requirements and manufacturers' specifications</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>10.04.04</p> <p>Remove, replace, recondition or service components as per manufacturers' procedures and specifications</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>10.04.05</p> <p>Complete repair by verifying system's function, driveability and performance</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>

10 - D
(cont'd)

Learning Outcome
Repairs drive line systems

Rating:

- 6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
- 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
- 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
- 3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**
- 2 - Complete a task with some assistance and supervision
- 1 - Complete task with assistance and constant supervision

Type of Proof: O - Observation I - Interview D - Documentation

Use: 1 - Daily 2 - Often 3 - Seldom 4 - Never

Knowledge, Skills and Abilities - Competencies

Task 10
Learning Needs

Sub-Tasks
Learning Objectives
to be completed
Comments

<p>SUB-TASK 10.05</p> <p><u>Learning Objective</u> Repairs transfer cases</p> <p>JP Sign-off _____</p>	<p>10.05.01 Determine type of transfer case such as manual and automatic</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>10.05.02 Select and use service tools such as scan tool, measuring tools, presses and hand tools</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>10.05.03 Select repair parts and materials such as gaskets, fluids, seals and lubricants according to repair requirements and manufacturers' specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>10.05.04 Remove, replace, recondition or service components as per manufacturers' procedures and specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>10.05.05 Complete repair by verifying system's function, driveability and performance</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>SUB-TASK 10.06</p> <p><u>Learning Objective</u> Repairs final drive assemblies</p> <p>JP Sign-off _____</p>	<p>10.06.01 Determine type of final drive assembly such as integral, removable and limited slip</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>10.06.02 Select and use service tools such as scan tool, measuring tools, presses and hand tools</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>10.06.03 Select repair parts and materials such as gaskets, fluids, seals and lubricants according to repair requirements and manufacturers' specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>10.06.04 Remove, replace, recondition or service components as per manufacturer's procedures and specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>

Knowledge, Skills and Abilities - Competencies

Automotive Service Technician

BLOCK E
17% - 21 questions on the IP exam

Learning Category
ELECTRICAL AND COMFORT CONTROL SYSTEMS

11 - E
8 questions on the IP exam

Learning Outcome
Diagnoses electrical systems and components

Journeyperson Sign-off Task 11

Complete

Incomplete

Task 11 Learning Needs

Sub-Tasks
Learning Objectives
to be completed
Comments

<p>SUB-TASK 11.01</p> <p><u>Learning Objective</u> Diagnoses starting/charging systems and batteries</p> <p>JP Sign-off _____</p>	<p>11.01.01 Inspect components for signs of wear, damage or failure</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>11.01.02 Select and use diagnostic tools and equipment such as AVR meter, DVOM, circuit tester and scan tool</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>11.01.03 Interpret and follow wiring diagrams</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>11.01.04 Perform starting/charging system and battery tests such as AVR, voltage drop and parasitic draw</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>11.01.05</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>11.01.06 Remove, replace or recondition drive shaft components</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>				
<p>SUB-TASK 11.02</p> <p><u>Learning Objective</u> Diagnoses basic wiring and electrical systems</p> <p>JP Sign-off _____</p>	<p>11.02.01 Inspect components and wires for signs of wear, damage or failure</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>11.02.02 Inspect connectors and connections for conditions such as corrosion, poor contacts and damaged terminals</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>11.02.03 Select and use diagnostic tools and equipment such as DVOM, scan tool and circuit tester</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>11.02.04 Interpret and follow wiring diagrams</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>11.02.05 Determine and perform tests such as voltage drop and resistance check to pinpoint failure</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>11.02.06 Interpret viewed values and codes to determine condition of systems and components</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>11.02.07 Interpret and analyze results of functional tests and inspections to determine required repair</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>			

Rating: 6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
3 - Complete a task to the level and quality of performance required by industry without assistance or supervision
 2 - Complete a task with some assistance and supervision
 1 - Complete task with assistance and constant supervision

Type of Proof: O - Observation I - Interview D - Documentation

Use: 1 - Daily 2 - Often 3 - Seldom 4 - Never

Knowledge, Skills and Abilities - Competencies

**Task 11
Learning Needs**

**Sub-Tasks
Learning Objectives
to be completed
Comments**

SUB-TASK 11.03 <u>Learning Objective</u> Diagnoses lighting and wiper systems JP Sign-off ____	11.03.01 Inspect components and wires for signs of wear, damage or failure Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	11.03.02 Inspect connectors for conditions such as corrosion, poor contacts and damaged terminals Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	11.03.03 Select and use diagnostic tools and equipment such as DVOM, scan tool and circuit tester Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	11.03.04 Interpret and follow wiring diagrams Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	11.03.05 Interpret viewed values and codes to determine condition of systems and components Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	11.03.06 Determine and perform tests such as voltage drop and resistance check to pinpoint failure Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	11.03.07 Interpret and analyze results of functional tests and inspections to determine required repair Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____			
SUB-TASK 11.04 <u>Learning Objective</u> Diagnoses entertainment systems JP Sign-off ____	11.04.01 Inspect components and wires for signs of wear, damage or failure Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	11.04.02 Inspect connectors for conditions such as corrosion, poor contacts and damaged terminals Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	11.04.03 Select and use diagnostic tools and equipment such as DVOM, scan tool and circuit tester Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	11.04.04 Interpret and follow wiring diagrams Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	11.04.05 Interpret viewed values and codes to determine condition of systems and components Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	11.04.06 Determine and perform tests such as voltage drop and resistance check to pinpoint failure Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	11.04.07 Identify presence of aftermarket devices and ensure correct operation Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	11.04.08 Activate system self-diagnosis function to retrieve trouble codes Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	11.04.09 Interpret and analyze results of functional tests and inspections to determine required repair Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	

11 - E
(cont'd)

Learning Outcome
Diagnoses electrical
systems and components

Task 11
Learning Needs

Sub-Tasks
Learning Objectives
to be completed
Comments

Knowledge, Skills and Abilities - Competencies

<p>SUB-TASK 11.05</p> <p><u>Learning Objective</u> Diagnoses electrical options</p> <p>JP Sign-off _____</p>	<p>11.05.01 Inspect components and wires for signs of wear, damage or failure</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>11.05.02 Inspect connectors for conditions such as corrosion, poor contacts and damaged terminals</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>11.05.03 Select and use diagnostic tools and equipment such as DVOM, scan tool and circuit tester</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>11.05.04 Interpret and follow wiring diagrams</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>11.05.05 Interpret viewed values and codes to determine condition of systems and components</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>11.05.06 Determine and perform tests such as voltage drop and resistance check to pinpoint failure</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>11.05.07 Interpret and analyze results of functional tests and inspections to determine required repair</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>			
<p>SUB-TASK 11.06</p> <p><u>Learning Objective</u> Diagnoses instrumentation and information displays</p> <p>JP Sign-off _____</p>	<p>11.06.01 Inspect components and wires for signs of wear, damage or failure</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>11.06.02 Inspect connectors for conditions such as corrosion, poor contacts and damaged terminals</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>11.06.03 Select and use diagnostic tools and equipment such as DVOM, scan tool and circuit tester</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>11.06.04 Interpret and follow wiring diagrams</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>11.06.05 Interpret viewed values and codes to determine condition of systems and components</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>11.06.06 Determine and perform tests such as voltage drop and resistance check to pinpoint failure</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>11.06.07 Verify that all vehicle warning indicators such as tire pressure monitoring system (TPMS), seatbelt monitoring system and airbag monitoring system are functioning as intended (self-test)</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>11.06.08 Verify that the display is functioning as intended</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>11.06.09 Identify presence of aftermarket devices and ensure correct operation</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>11.06.10 Interpret and analyze results of functional tests and inspections to determine required repair</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>

12 - E
5 questions on the IP exam
Learning Outcome
Repairs electrical systems and components

Journeyperson
 Sign-off
 Task 12
 Complete
 Incomplete

Task 12 Learning Needs
Sub-Tasks Learning Objectives
 to be completed
 Comments

Rating:
 6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
3 - Complete a task to the level and quality of performance required by industry without assistance or supervision
 2 - Complete a task with some assistance and supervision
 1 - Complete task with assistance and constant supervision

Type of Proof: O - Observation I - Interview D - Documentation

Use: 1 - Daily 2 - Often 3 - Seldom 4 - Never

Knowledge, Skills and Abilities - Competencies

SUB-TASK 12.01 <u>Learning Objective</u> Repairs starting/ charging systems and batteries JP Sign-off ____	12.01.01 Select and use tools and equipment such as scan tool, hand tools, DVOM and specialized tools Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	12.01.02 Select repair parts and materials such as lubricants and fastening devices according to repair requirements and manufacturers' specifications Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	12.01.03 Remove components to access defective parts such as alternators, starters and batteries Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	12.01.04 Replace or repair components according to manufacturers' specifications and recommendations Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	12.01.05 Determine component serviceability according to parts availability and cost effectiveness Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____
	12.01.06 Complete repair by verifying system's function and performance Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____				
SUB-TASK 12.02 <u>Learning Objective</u> Repairs basic wiring and electrical systems JP Sign-off ____	12.02.01 Select and use tools and equipment such as hand tools and soldering equipment Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	12.02.02 Select repair parts and materials such as terminals, insulators and fastening devices according to repair requirements and manufacturers' specifications Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	12.02.03 Remove components to access defective parts such as wiring harnesses, connectors, relays and fusible links Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	12.02.04 Replace or repair components according to manufacturers' specifications and recommendations Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	12.02.05 Determine component serviceability according to parts availability and cost effectiveness Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____
	12.02.06 Repair wiring using methods such as splicing, terminal replacement, soldering and crimping Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	12.02.07 Complete repair by verifying system's function and performance Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____			

Knowledge, Skills and Abilities - Competencies

Task 12
Learning Needs

Sub-Tasks
Learning Objectives
to be completed
Comments

<p>SUB-TASK 12.03</p> <p><u>Learning Objective</u> Repairs lighting and wiper systems</p> <p>JP Sign-off _____</p>	<p>12.03.01 Select and use tools and equipment such as hand tools, specialized tools and DVOM</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.03.02 Select repair parts and materials such as gaskets, insulators and fastening devices according to repair requirements and manufacturers' specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.03.03 Replace or repair components according to manufacturers' specifications and recommendations</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.03.04 Repair wiring using methods such as splicing, terminal replacement, soldering and crimping</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.03.05 Adjust and replace wiper components such as linkages and controls</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>12.03.06 Adjust and aim headlights</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.03.07 Complete repair by verifying system's function and performance</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>			
<p>SUB-TASK 12.04</p> <p><u>Learning Objective</u> Repairs entertainment systems</p> <p>JP Sign-off _____</p>	<p>12.04.01 Select and use tools and equipment such as scan tool and specialized tools</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.04.02 Select repair parts and materials according to repair requirements and manufacturers' specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.04.03 Replace or repair components according to manufacturers' specifications and recommendations</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.04.04 Repair wiring using methods such as splicing, terminal replacement, soldering and crimping</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.04.05 Complete repair by verifying system's function and performance</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>12.05.01 Select and use tools and equipment such as specialized tools and DVOM</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.05.02 Select repair parts and materials according to repair requirements and manufacturers' specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.05.03 Replace, repair and program components according to manufacturers' specifications and recommendations</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.05.04 Adjust components such as sunroof, power mirrors, power windows, power seats, and heated mirrors and seats</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.05.05 Repair wiring using methods such as splicing, terminal replacement, soldering and crimping</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>12.05.06 Adjust sensors such as park aids and back-up cameras</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.05.07 Complete repair by verifying system's function and performance</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>			

12 - E
(cont'd)

Learning Outcome
Repairs electrical systems
and components

Rating: 6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
3 - Complete a task to the level and quality of performance required by industry without assistance or supervision
2 - Complete a task with some assistance and supervision
1 - Complete task with assistance and constant supervision

Type of Proof: O - Observation I - Interview D - Documentation

Use: 1 - Daily 2 - Often 3 - Seldom 4 - Never

Knowledge, Skills and Abilities - Competencies

Task 12
Learning Needs

Sub-Tasks
Learning Objectives
to be completed
Comments

<p>SUB-TASK 12.06</p> <p><u>Learning Objective</u> Repairs electrical accessories</p> <p>JP Sign-off _____</p>	<p>12.06.01 Select and use tools and equipment such as hand tools, specialized tools and DVOM</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.06.02 Select repair parts and materials according to repair requirements and manufacturers' specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.06.03 Replace, repair and program components according to manufacturers' specifications and recommendations</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.06.04 Repair wiring using methods such as splicing, terminal replacement, soldering and crimping</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.06.05 Complete repair by verifying system's function and performance</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>SUB-TASK 12.07</p> <p><u>Learning Objective</u> Installs electrical accessories</p> <p>JP Sign-off _____</p>	<p>12.07.01 Select and use tools and equipment such as hand tools, specialized tools and DVOM</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.07.02 Determine compatibility of component with vehicle</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.07.03 Select parts and materials such as according to installation requirements and manufacturers' specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.07.04 Reconfigure vehicle control module to allow operation of accessories</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>12.07.06 Complete installation by verifying system's function and performance</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>				

12 - E
(cont'd)

Learning Outcome
Repairs electrical systems
and components

Knowledge, Skills and Abilities - Competencies

<p>SUB-TASK 12.08</p> <p><u>Learning Objective</u> Repairs instrumentation and information displays</p> <p>JP Sign-off _____</p>	<p>12.08.01 Select and use tools and equipment such as scan tool, hand tools and DVOM</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.08.02 Select repair parts and materials according to repair requirements and manufacturers' specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.08.03 Replace or repair components according to manufacturers' specifications and recommendations</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.08.04 Repair wiring using methods such as splicing, terminal replacement, soldering and crimping</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.08.05 Program modules to vehicle's calibration</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>12.08.06 Recalibrate compass</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>12.08.07 Complete repair by verifying system's function and performance</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>			

Task 12
Learning Needs

Sub-Tasks
Learning Objectives
to be completed
Comments

13 - E
5 questions on the IP exam
Learning Outcome
Diagnoses HVAC and comfort control systems

Journeyperson
 Sign-off
 Task 13
 Complete
 Incomplete

Task 13 Learning Needs
Sub-Tasks Learning Objectives
 to be completed
 Comments

Rating:
 6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
3 - Complete a task to the level and quality of performance required by industry without assistance or supervision
 2 - Complete a task with some assistance and supervision
 1 - Complete task with assistance and constant supervision

Type of Proof: O - Observation I - Interview D - Documentation

Use: 1 - Daily 2 - Often 3 - Seldom 4 - Never

Knowledge, Skills and Abilities - Competencies

SUB-TASK 13.01 <u>Learning Objective</u> Diagnoses air flow control systems JP Sign-off _____	13.01.01 Inspect components for wear, damage and defects Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	13.01.02 Inspect connectors for conditions such as corrosion, poor contacts and damaged terminals Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	13.01.03 Select and use diagnostic tools and equipment such as DVOM, scan tool, circuit tester and vacuum pumps Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	13.01.04 Interpret and follow wiring diagrams and vacuum and air flow schematics Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	13.01.05 Interpret viewed values and codes to determine condition of systems and components Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	13.01.06 Activate system self-diagnosis function to retrieve trouble codes Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	13.01.07 Check electronically-controlled system operation for conditions such as blown fuses, seized motors and broken wires Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	13.01.08 Determine and perform tests such as voltage drop and resistance check to pinpoint failure Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	13.01.09 Inspect air flow circulation to identify problems such as partially open/closed doors, restricted cabin filters and dead animals Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	13.01.10 Verify full range of fan operation Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	13.01.11 Interpret and analyze results of functional tests and inspections to determine required repair Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____				

Learning Outcome
Diagnoses HVAC and
comfort control systems

Task 13
Learning Needs

Sub-Tasks
Learning Objectives
to be completed
Comments

Knowledge, Skills and Abilities - Competencies

<p>SUB-TASK 13.02</p> <p><u>Learning Objective</u> Diagnoses refrigerant systems</p> <p>JP Sign-off _____</p>	<p>13.02.01 Inspect components for wear, damage and defects</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>13.02.02 Select and use diagnostic tools and equipment such as Freon leak detector, DVOM, circuit tester, AC machine and black lights</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>13.02.03 Interpret pressure gauge readings</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>13.02.04 Inspect connectors for conditions such as corrosion, poor contacts and damaged terminals</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>13.02.05 Interpret and follow wiring diagrams</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>13.02.06 Check electronically-controlled system operation for conditions such as blown fuses and broken wires</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>13.02.07 Determine and perform tests such as voltage drop and resistance check to pinpoint failure</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>13.02.08 Perform Freon leak detection and determine source of leakage</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>13.02.09 Identify compatibility of refrigerant with systems and tools</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>13.02.10 Pressurize systems with nitrogen to locate leaks</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>13.02.11 Interpret and analyze results of functional tests and inspections to determine required repair</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>				
<p>SUB-TASK 13.03</p> <p><u>Learning Objective</u> Diagnoses heating systems</p> <p>JP Sign-off _____</p>	<p>13.03.01 Verify customer complaint such as no heat, erratic idling and odours to guide the diagnostic process</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>13.03.02 Determine diagnostic sequence as per manufacturers' specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>13.03.03 Depressurize cooling system before removing radiator cap to avoid personal injury</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>13.03.04 Determine and perform diagnostic tests such as checking coolant level, pressure, flow and temperature</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>13.03.05 Identify faulty system such as base engine or HVAC</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>13.03.06 Interpret and analyze findings of tests such as low coolant level, inoperative blend doors and insufficient air flow to identify defective components and determine required repair</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>				

14 - E
3 questions on the IP exam
Learning Outcome
Repairs HVAC and comfort control systems

Rating:
6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
3 - Complete a task to the level and quality of performance required by industry without assistance or supervision
2 - Complete a task with some assistance and supervision
1 - Complete task with assistance and constant supervision

Type of Proof: O - Observation I - Interview D - Documentation

Use: 1 - Daily 2 - Often 3 - Seldom 4 - Never

Knowledge, Skills and Abilities - Competencies

Journeyperson
Sign-off
Task 14
Complete
Incomplete

Task 14
Learning Needs
Sub-Tasks
Learning Objectives
to be completed
Comments

<p>SUB-TASK 14.01 <u>Learning Objective</u> Repairs air flow control systems JP Sign-off _____</p>	<p>14.01.01 Select and use tools and equipment such as hand tools, scan tool, and specialized tools Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>14.01.02 Select repair parts and materials such as gaskets, sealants and fastening devices according to repair requirements and manufacturers' specifications Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>14.01.03 Follow repair sequence as per manufacturers' specifications Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>14.01.04 Recover refrigerant and evacuate air conditioning system according to jurisdictional regulations Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>14.01.05 Access faulty components such as blend doors, blower motors and cabin filters Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>
	<p>14.01.06 Remove, repair and replace faulty components such as control units, connectors, blend door motors and blower motor resistors Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>14.01.07 Clean and deodorize air flow systems with materials such as compressed air and pressurized deodorizers Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>14.01.08 Complete repair by verifying system's function and performance Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>		
<p>SUB-TASK 14.02 <u>Learning Objective</u> Repairs refrigerant systems JP Sign-off _____</p>	<p>14.02.01 Select and use tools and equipment to evacuate and recharge system and to identify types of refrigerant Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>14.02.02 Select repair parts and materials such as gaskets, sealants and fastening devices according to repair requirements and manufacturers' specifications Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>14.02.03 Follow repair sequence as per manufacturers' specifications Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>14.02.04 Recover refrigerant and evacuate air conditioning system according to jurisdictional regulations Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>14.02.05 Remove and replace faulty components such as switches, hoses and expansion valves Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>
	<p>14.02.06 Recharge system to recommended amounts of refrigerant oils and refrigerants Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>14.02.07 Clean and deodorize air flow systems with materials such as compressed air and pressurized deodorizers Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>14.02.08 Convert systems to run on other refrigerants as per manufacturers' requirements by performing tasks such as replacing fittings and adding refrigerant oil Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>14.02.09 Complete repair by verifying system's function and performance Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	

14 - E
(cont'd)

Learning Outcome
Diagnoses HVAC and
comfort control

Task 14
Learning Needs

Sub-Tasks
Learning Objectives
to be completed
Comments

Knowledge, Skills and Abilities - Competencies

<p>SUB-TASK 14.03</p> <p><u>Learning Objective</u> Repairs heating systems</p> <p>JP Sign-off _____</p>	<p>14.03.01 Select and use tools and equipment such as hand tools, scan tool and DVOM</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>14.03.02 Select repair parts and materials such as gaskets, sealants and fastening devices according to repair requirements and manufacturers' specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>14.03.03 Follow repair sequence as per manufacturers' specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>14.03.04 Depressurize cooling system before removing radiator cap to avoid personal injury</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>14.03.05 Fill and bleed cooling system using vacuum fill equipment</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>14.03.06 Remove and replace faulty components such as blend doors and control valves</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>14.03.07 Clean and deodorize air flow systems with materials such as compressed air and pressurized deodorizers</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>14.03.08 Complete repair by verifying system's function and performance</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>		

Automotive Service Technician

BLOCK F
7% - 9 questions on the IP exam

Learning Category
STEERING AND SUSPENSION, BRAKING, CONTROL SYSTEMS, TIRES, HUBS AND WHEEL BEARINGS

15 - F
5 questions on the IP exam

Learning Outcome
Diagnoses steering and suspension, braking, control systems, tires, wheels, hubs and wheel bearings

Journey person
Sign-off
Task 15

Complete

Incomplete

Task 15 Learning Needs

Sub-Tasks
Learning Objectives
to be completed
Comments

Rating:

6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
 3 - Complete a task to the level and quality of performance required by industry without assistance or supervision
 2 - Complete a task with some assistance and supervision
 1 - Complete task with assistance and constant supervision

Type of Proof: O - Observation I - Interview D - Documentation

Use: 1 - Daily 2 - Often 3 - Seldom 4 - Never

Knowledge, Skills and Abilities - Competencies

SUB-TASK 15.01 <u>Learning Objective</u> Diagnoses steering, suspension and control systems JP Sign-off _____	15.01.01 Perform road test to identify steering or suspension concerns such as pull, vibrations and extent of assist Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	15.01.02 Determine type of steering and control system such as rack-and-pinion, recirculating ball, hydraulic, electric and four-wheel steer Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	15.01.03 Determine type of suspension and control system such as MacPherson strut, leaf spring, standard and active Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	15.01.04 Select and use diagnostic tools such as scan tool, pressure gauge and measuring tools Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	15.01.05 Inspect vehicle's steering, suspension and control components in accordance with manufacturers' specifications and inspection procedures Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	15.01.06 Perform functional tests as per manufacturers' procedures and specifications Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	15.01.07 Interpret and analyze results of functional tests and inspections to determine required repair Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____			
SUB-TASK 15.02 <u>Learning Objective</u> Diagnoses braking and control systems JP Sign-off _____	15.02.01 Perform road test to identify braking concerns such as vibrations, noises and lack of brake assist Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	15.02.02 Determine type of braking and control system such as hydro-boost, vacuum assist, ABS/TCS, self-regulating and regenerating (hybrid) Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	15.02.03 Identify ABS, TCS and stability control system components and relate the operation of those system components to the vehicle and other systems Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	15.02.04 Select and use diagnostic tools such as measuring tools, scan tool and pressure gauge Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	15.02.05 Inspect vehicle's braking and control components and fluids in accordance with manufacturers' specifications and inspect procedures Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	15.02.06 Perform functional tests as per manufacturers' procedures and specifications Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	15.02.07 Interpret and analyze results of functional tests and inspections to determine required repair Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____			

15 - F
5 questions on the IP exam

Learning Outcome
 Diagnoses steering and suspension, braking, control systems, tires, wheels, hubs and wheel bearings

Task 15 Learning Needs

Sub-Tasks
Learning Objectives
 to be completed
 Comments

Knowledge, Skills and Abilities - Competencies

SUB-TASK 15.03 <u>Learning Objective</u> Diagnoses tires, wheels, hubs and wheel bearings JP Sign-off ____	15.03.01 Perform road test to identify tire, wheel, hubs or wheel bearings concerns such as vibrations, noises and pulls Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	15.03.02 Select and use diagnostic tools such as measuring tools, pressure gauge, chassis ears and stethoscope Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	15.03.03 Inspect tires, wheels and hubs for damage, defects, irregular wear, and correct application and size Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	15.03.04 Listen for abnormal noises such as growl, rumble or whine and interpret source and cause of these noises Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	15.03.05 Inspect hubs or wheel bearings for excessive play or noise Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	15.03.06 Perform functional tests as per manufacturers' procedures and specifications Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	15.03.07 Interpret and analyze results of functional tests and inspections to determine required repair Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____			

16 - F
10 questions on the IP exam

Learning Outcome
Repairs steering and suspension, braking, control systems, tires, wheels, hubs and wheel bearings

- Rating:**
- 6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
 - 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
 - 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
 - 3 - Complete a task to the level and quality of performance required by industry without assistance or supervision**
 - 2 - Complete a task with some assistance and supervision
 - 1 - Complete task with assistance and constant supervision

Type of Proof: O - Observation I - Interview D - Documentation

Use: 1 - Daily 2 - Often 3 - Seldom 4 - Never

Knowledge, Skills and Abilities - Competencies

Journeyperson
Sign-off
Task 16

Complete

Incomplete

**Task 16
Learning Needs**

Sub-Tasks
Learning Objectives
to be completed
Comments

SUB-TASK 16.01 <u>Learning Objective</u> Repairs steering, suspension and control systems JP Sign-off ____	16.01.01 Select and use service tools such as scan tool, pullers, presses and hand tools Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	16.01.02 Select repair parts and materials such as gaskets, sealants and fastening devices according to repair requirements and manufacturers' specifications Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	16.01.03 Remove, replace, recondition or service components as per manufacturers' procedures and specifications Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	16.01.04 Perform adjustments such as wheel alignment, tire pressure and ride height adjustment Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	16.01.05 Complete repair by verifying system's function and performance Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	
	SUB-TASK 16.02 <u>Learning Objective</u> Repairs braking and control systems JP Sign-off ____	16.02.01 Determine type of braking and control system such as hydro-boost, vacuum assist, ABS/TCS, self-regulating and regenerating (hybrid) Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	16.02.02 Select and use service tools such as scan tool, pressure gauges, measuring tools and hand tools Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	16.02.03 Select repair parts and materials such as gaskets, sealants and fastening devices according to repair requirements and manufacturers' specifications Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	16.02.04 Remove, replace, recondition or service components as per manufacturers' procedures and specifications Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	16.02.05 Complete repair by verifying system's function and performance Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
		SUB-TASK 16.03 <u>Learning Objective</u> Repairs tires, wheels, hubs and wheel bearings JP Sign-off ____	16.03.01 Select and use service tools such as scan tool, wheel balancers, tire changing machines and tire pressure monitoring tools Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	16.03.02 Inspect and perform manufacturer-approved procedures such as dismantling and patching Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	16.03.03 Reset, reprogram and calibrate tire pressure monitor systems Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	16.03.04 Select repair parts and materials such as gaskets, sealants and fastening devices according to repair requirements and manufacturers' specifications Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
16.03.06 Complete repair by verifying system's function and performance Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____						

Knowledge, Skills and Abilities - Competencies

Automotive Service Technician

BLOCK G

7% - 9 questions on the IP exam

Learning Category

BODY COMPONENTS, TRIM AND RESTRAINT SYSTEMS

17 - G

5 questions on the IP exam

Learning Outcome

Diagnoses body components, trim and restraint systems

Journey person Sign-off Task 17

Complete

Incomplete

Task 17 Learning Needs

Sub-Tasks

Learning Objectives to be completed

Comments

SUB-TASK 17.01 <u>Learning Objective</u> Diagnoses restraint systems JP Sign-off _____	17.01.01 Follow manufacturer's stated safety precautions and protocols Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	17.01.02 Identify type of occupant restraint systems such as seatbelts (passive or active) and single or multiple airbag systems Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	17.01.03 Inspect vehicle's restraint monitoring and warning systems Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	17.01.04 Inspect vehicle's restraint systems for defects such as tears, frays and improper modifications Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	17.01.05 Inspect vehicle's restraint systems for impediments to airbag systems such as seat covers and incorrect accessory placement Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____
---	--	--	---	--	--

17.01.06 Select and use diagnostic tools such as scan tool, hand tools and simulators Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	17.01.07 Perform functional tests as per manufacturers' procedures and specifications Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	17.01.08 Interpret and analyze results of functional tests and inspections to determine required repair Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____
---	---	---

SUB-TASK 17.02 <u>Learning Objective</u> Diagnoses wind noise, rattles and water leaks JP Sign-off _____	17.02.01 Perform road test to identify and locate wind noise or rattles Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	17.02.02 Select and use diagnostic tools such as smoke machine, chassis ears and water hose Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	17.02.03 Perform tests such as smoke test, interior pressure test or water test to isolate or locate cause of concern Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	17.02.04 Interpret and analyze results of functional tests and inspections to determine required repair Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____
---	---	---	---	---

SUB-TASK 17.03 <u>Learning Objective</u> Diagnoses interior and exterior components and trim JP Sign-off _____	17.03.01 Inspect interior and exterior components for flaws in areas such as fit, finish and function Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	17.03.02 Interpret and analyze results of inspections to determine required repair Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____
---	---	--

SUB-TASK 17.04 <u>Learning Objective</u> Diagnoses latches, locks and movable glass JP Sign-off _____	17.04.01 Inspect latches, locks and movable glass for form, fit and function Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	17.04.02 Select and use diagnostic tools such as scan tool, DVOM, trim panel tools and hand tools Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	17.04.03 Perform electrical functional tests Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	17.04.04 Interpret and analyze results of inspections and functional tests to determine required repair Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____
--	--	---	--	---

18 - G
4 questions on the IP exam

Learning Outcome
Repairs body components, trim, restraint systems and installed accessories

Journeyperson
Sign-off
Task 18

Complete

Incomplete

Task 18
Learning Needs

Sub-Tasks
Learning Objectives
to be completed
Comments

Rating:

6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
3 - Complete a task to the level and quality of performance required by industry without assistance or supervision
2 - Complete a task with some assistance and supervision
1 - Complete task with assistance and constant supervision

Type of Proof: O - Observation I - Interview D - Documentation

Use: 1 - Daily 2 - Often 3 - Seldom 4 - Never

Knowledge, Skills and Abilities - Competencies

SUB-TASK 18.01 <u>Learning Objective</u> Repairs restraint systems JP Sign-off ____	18.01.01 Follow manufacturers' stated safety precautions and protocols Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	18.01.02 Identify type of occupant restraint systems such as seatbelts (passive or active) and single or multiple airbag systems Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	18.01.03 Select and use tools such as scan tool and hand tools Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	18.01.04 Select repair parts and materials such as connectors and fasteners according to repair requirements and manufacturers' specifications Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	18.01.05 Remove and replace components as per manufacturers' procedures and specifications Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____
	18.01.06 Complete repair by verifying system self-test Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____				
SUB-TASK 18.02 <u>Learning Objective</u> Repairs problems with wind noise, rattles and water leaks JP Sign-off ____	18.02.01 Follow manufacturers' stated safety precautions and protocols Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	18.02.02 Select repair parts and materials such as lubricants, sealants, adhesives and fastening devices according to repair requirements and manufacturers' specifications Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	18.02.03 Select and use tools such as scan tool and hand tools Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	18.02.04 Remove, replace or adjust components as per manufacturers' procedures and specifications Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____	18.02.05 Complete repair by verifying fit, function and performance Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____

18 - G
(cont'd)

Learning Outcome
Repairs body components,
trim, restraint systems and
installed accessories

Knowledge, Skills and Abilities - Competencies

<p>SUB-TASK 18.03</p> <p><u>Learning Objective</u> Repairs interior and exterior components and trim</p> <p>JP Sign-off _____</p>	<p>18.03.01 Follow manufacturers' stated safety precautions and protocols</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>18.03.02 Select repair parts and materials such as adhesives, gaskets, sealants and fastening devices according to repair requirements and manufacturers' specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>18.03.03 Select and use tools such as trim tools and hand tools</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>18.03.04 Remove, replace or adjust components as per manufacturers' procedures and specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>18.03.05 Complete repair by verifying fit, function and performance</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	
	<p>SUB-TASK 18.04</p> <p><u>Learning Objective</u> Repairs latches, locks and movable glass</p> <p>JP Sign-off _____</p>	<p>18.04.01 Follow manufacturers' stated safety precautions and protocols</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>18.04.02 Select repair parts and materials such as gaskets, sealants and fastening devices according to repair requirements and manufacturers' specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>18.04.03 Select and use tools such as trim tools and hand tools</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>18.04.04 Remove, replace or adjust components as per manufacturers' procedures and specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>18.04.05 Complete repair by verifying fit, function and performance</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>SUB-TASK 18.05</p> <p><u>Learning Objective</u> Installs interior and exterior accessories</p> <p>JP Sign-off _____</p>	<p>18.05.01 Follow manufacturers' stated safety precautions and protocols</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>18.05.02 Select installation parts and materials such as adhesives, sealants and fastening devices according to repair requirements and manufacturers' specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>18.05.03 Select and use tools such as power tools, trim tools and hand tools</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>18.05.04 Remove, replace or adjust components as per manufacturers' procedures and specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>18.05.05 Complete installation by verifying fit, function and performance</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>

Task 18
Learning Needs

Sub-Tasks
Learning Objectives
to be completed
Comments

Automotive Service Technician

BLOCK H
4% - 5 questions on the IP exam

Learning Category
HYBRID AND ALTERNATE FUEL SYSTEMS

19 - H
3 questions on the IP exam

Learning Outcome
Diagnoses hybrid and alternate fuel systems

Journeyman Sign-off Task 19

Complete

Incomplete

Task 19 Learning Needs

Sub-Tasks
Learning Objectives
to be completed
Comments

Rating:

6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
 5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
 4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
3 - Complete a task to the level and quality of performance required by industry without assistance or supervision
 2 - Complete a task with some assistance and supervision
 1 - Complete task with assistance and constant supervision

Type of Proof: O - Observation I - Interview D - Documentation

Use: 1 - Daily 2 - Often 3 - Seldom 4 - Never

Knowledge, Skills and Abilities - Competencies

SUB-TASK 19.01 <u>Learning Objective</u> Implements hybrid safety protocols JP Sign-off ____	19.01.01 Prepare vehicle for service of system by isolating high voltage system according to manufacturers' directions Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	19.01.02 Select and use PPE and safety equipment specific to hybrid systems such as insulated gloves, pylons and high voltage retractor pole Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	19.01.03 Select and use tools and equipment required to complete safety preparation Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	19.01.04 Recognize safety hazards specific to working on hybrid vehicles such as wet floors and high voltages Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	19.01.05 Restrict access to work area using pylons Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____
	SUB-TASK 19.02 <u>Learning Objective</u> Diagnoses hybrid systems JP Sign-off ____	19.02.01 Identify type of hybrid system Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	19.02.02 Select and use diagnostic tools and equipment such as scan tool, specialized voltmeter and laptop Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	19.02.03 Visually inspect hybrid system components for wear, damage and defects Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	19.02.04 Retrieve diagnostic trouble codes Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____
	19.02.06 Isolate problem as per manufacturers' instructions Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____	19.02.07 Interpret and analyze results of functional tests and inspections to determine required repair Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____			

**19 - H
(cont'd)**

Learning Outcome
Repairs body components, trim, restraint systems and installed accessories

Knowledge, Skills and Abilities - Competencies

**Task 19
Learning Needs**

Sub-Tasks
Learning Objectives
to be completed
Comments

<p>SUB-TASK 19.03</p> <p><u>Learning Objective</u> Diagnoses alternate fuel systems</p> <p>JP Sign-off _____</p>	<p>19.03.01 Select and use tools and equipment such as fuel pressure gauges, vacuum gauges, scan tool, DVOM and laptops</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>19.03.02 Identify type of alternate fuel delivery systems such as injection and feedback, and external mixer systems</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>19.03.03 Check for leaks in system using methods such as soap and water, odour and gas detecting meter</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>19.03.04 Perform alternate fuel system pressure and restriction tests</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>19.03.05 Check alternate fuel system parameters such as timing and fuel rate</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>19.03.06 Isolate alternate fuel system problems such as engine misfires and lack of power</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>19.03.07 Inspect alternate fuel system storage vessel mounts and ventilation</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>19.03.08 Follow pressure-handling procedures for testing alternate fuel systems in order to attain a safe pressure according to manufacturers' specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>19.03.09 Interpret and analyze results of functional tests and inspections to determine required repair</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	

20 - H
2 questions on the IP exam
Learning Outcome
Repairs hybrid and alternate fuel systems

Journeyperson Sign-off Task 20
Complete
Incomplete

Task 20 Learning Needs
Sub-Tasks
Learning Objectives to be completed
Comments

Rating:
6 - Expert, perform a task beyond expected level and quality of performance, lead and/or teach others
5 - Highly skilled, perform a task to the highest level and quality of performance, supervise others
4 - Meet task timelines and perform tasks to the highest level and quality required by industry, without supervision
3 - Complete a task to the level and quality of performance required by industry without assistance or supervision
2 - Complete a task with some assistance and supervision
1 - Complete task with assistance and constant supervision

Type of Proof: O - Observation I - Interview D - Documentation

Use: 1 - Daily 2 - Often 3 - Seldom 4 - Never

Knowledge, Skills and Abilities - Competencies

<p>SUB-TASK 20.01 <u>Learning Objective</u> Repairs hybrid systems JP Sign-off _____</p>	<p>20.01.01 Select and use tools and equipment such as safety devices, specialized voltmeter, scan tool and hand tools</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>20.01.02 Determine manufacturers' specifications and repair procedures for specific storage and control system</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>20.01.03 Deactivate electrical system according to manufacturers' specifications and procedures</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>20.01.04 Select repair parts and materials such as wiring, fuses and fastening devices according to repair requirements and manufacturers' specifications</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>20.01.05 Remove and inspect hybrid system components such as modules and inverters</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>
	<p>20.01.06 Replace components according to manufacturers' specifications</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>	<p>20.01.07 Complete repair by verifying system's function and performance</p> <p>Rating ____ Complete <input type="checkbox"/> Proof ____ <input type="checkbox"/> Use ____</p>			

20 - H
(cont'd)

Learning Outcome
Repairs hybrid and
alternate fuel systems

Task 20
Learning Needs

Sub-Tasks
Learning Objectives
to be completed
Comments

Knowledge, Skills and Abilities - Competencies

<p>SUB-TASK 20.02</p> <p><u>Learning Objective</u> Repairs alternate fuel systems</p> <p>JP Sign-off _____</p>	<p>20.02.01 Select and use tools and equipment such as hand tools, specialized pressure gauges, scan tool and laptop</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>20.02.02 Select repair parts and materials such as gaskets, sealants and fastening devices according to repair requirements and manufacturers' specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>20.02.03 Depressurize alternate fuel system in order to remove and disassemble system</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>20.02.04 Remove, disassemble and inspect alternate fuel systems for conditions such as damage and wear</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>20.02.05 Clean and repair alternate fuel system components and parts</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>20.02.06 Fit and replace alternate fuel system components and parts</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>20.02.07 Reassemble alternate fuel system components and perform measurements</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>20.02.08 Torque components according to sequence and specifications</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>20.02.09 Pressurize, bleed and purge system</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>	<p>20.02.10 Perform alternate fuel system timing procedures</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>
	<p>20.02.11 Complete repair by verifying system's function and performance</p> <p>Rating ____ Complete Proof ____ <input type="checkbox"/> Use ____</p>				

APPENDIX A

AUTOMOTIVE SERVICE TECHNICIAN NATIONAL OCCUPATIONAL ANALYSIS GLOSSARY OF TERMS

Ammeter	Instrument used to measure electrical current flow in a circuit
AVR	Alternator voltage regulator; refers to a device that is used to test generators/ alternators for electrical output, voltage and amperage
CAN	A protocol for communication between electronic/computer modules
CANBUS	Controller-area network is a vehicle bus standard designed to allow microcontrollers and devices to communicate with each other within a vehicle without a host computer
Condenser (A/C)	Device used in an air conditioning system to allow the dissipation of heat
Condenser (electrical)	Electrical device that acts to store an electrical charge preventing voltage surges
DVOM	Meter for measuring voltage, amperage, resistance (ohms) and is digital in its operation
Gerotor	A positive displacement pump which utilizes a drive shaft with an inner and outer rotor
Inclinometer	Device used to measure the incline of an object, measured in degrees
Jounce	The motion of a wheel that compresses its suspension. Full jounce refers to a wheel that is at the upper limits of its travel. Jounce is the opposite of rebound
Manometer	A graduated tube containing water which measures pressure/vacuum in units of water column

Micrometer	A precision measuring device for small distances
O₂Sensor	Device used to measure oxygen content of exhaust gases
OBD I and OBD II	On board diagnostics are part of a vehicle's engine management software used to monitor system performance. OBD II is a second generation program that performs as dictated by standards established by the Society of Automotive Engineers
Ohm's Law	The relationship between current, resistance and voltage in any electrical circuit. Voltage in circuit is equal to the current (in amperes) multiply by the resistance (in ohms).
Pneumatic	Operated by compressed air
Pyrometer	Instrument used to measure temperatures
Refractor	Test instrument used to measure the strength of antifreeze or specific gravity of electrolyte in a cell of a lead/acid battery
Sirometer	Test instrument used to measure RPM or an engine or frequency of a vibration with great accuracy
UART	A protocol for communicate between computer modules

AST National Occupational Analysis

ACRONYMS

ABS	antilock braking systems	ISO	International Standards Organization
A/C	air conditioning	LED	light emitting diode
AVR	alternator voltage regulator	NO_x	oxides of nitrogen
CAN	controller area network	NVH	noise, vibration, harshness
CO	carbon monoxide	OBD I	On board diagnostics (first generation)
CO₂	carbon dioxide	OBD II	On board diagnostics (second generation)
CSA	Canadian Standards Association	PCM	power train control module
CV	constant velocity	PCV	positive crankcase ventilation
CVT	continuously variable transmission	PPE	personal protective equipment
DLC	Data link connection	RPM	revolutions per minute
DSC	dynamic stability control	SAE	Society of Automotive Engineers
DTC	diagnostic trouble code	TCM	transmission control module
DVOM	digital voltage ohmmeter	TCS	traction control system
EGR	exhaust gas recirculation	TPMS	tire pressure monitoring system
EVAP	evaporative emission control systems	TPS	throttle position sensor
GMAW	gas metal arc welding	TSB	technical service bulletins
GTAW	gas tungsten arc welding	UART	universal asynchronous receive transmit
HC	hydrocarbons	VIN	vehicle identification number
HID	high intensity discharge	VSS	vehicle speed sensor
HS	high speed	WHMIS	Workplace Hazardous Materials Information
HVAC	heating, ventilation and air conditioning		System

APPENDIX B

ESSENTIAL SKILL	REQUIRED ESSENTIAL SKILLS TASKS FOR TRADES
Technical Reading	<ul style="list-style-type: none"> ➤ Find and use information from one source - i.e., a book, Internet, and work order ➤ Find and use information from many parts of a single source - i.e., a code book ➤ Recognize what is important from several sources of information ➤ Interpret information using more than one source ➤ Apply information to the task
Document Use	<ul style="list-style-type: none"> ➤ Use large or difficult documents which are organized into units, headings chapters or sub-headings -i.e., a code book ➤ Find information in large or very specialized documents which may have many smaller documents - i.e., operations manuals, safety manuals ➤ Find information from many sources - i.e., code books, blueprints, work manuals ➤ Enter information into pre-set documents and forms - i.e., accident report forms, order forms ➤ Combine information from several sources and use it – i.e., alter a work order using information from code books, manuals and blueprints ➤ Create new documents using information from a variety of sources – i.e., create work orders, material lists, time log sheets

ESSENTIAL SKILL	REQUIRED ESSENTIAL SKILLS TASKS FOR TRADES
Writing	<ul style="list-style-type: none"> ➤ Write information into a pre-set form – i.e., contract, lease, building permit ➤ Write short messages, explanations, requests or directions – i.e., write a work order, memo, written message for a foreman, supervisor or client ➤ Write longer messages, explanations, requests or directions – i.e., write an accident report, a detailed message to a foreman, supervisor or client ➤ Write a longer article which may need to be organized into headings with a table of contents, i.e., work report, section of a work manual ➤ Write detailed, non-routine articles – i.e., make recommendations, use technical language to give directions to or ask for information from other tradespeople
Math	<ul style="list-style-type: none"> ➤ Perform math calculations using formulas, fractions, decimals and percent ➤ Combine one or more math operations to solve a problem ➤ Estimate numbers ➤ Convert between imperial and metric measurement systems ➤ Solve equations ➤ Use trigonometry to solve problems (not a requirement in every trade)

ESSENTIAL SKILL	REQUIRED ESSENTIAL SKILLS TASKS FOR TRADES
Computer Use	<ul style="list-style-type: none"> ➤ Perform basic computer operations needed to produce a document – i.e., a letter ➤ Find information on the Internet ➤ Find information in workplace databases ➤ Send and receive e-mail ➤ Enter data into a set format – i.e., form, spreadsheet, chart ➤ Manage electronic information – i.e., save files ➤ Choose and use the best software program for the task
Oral Communication	<ul style="list-style-type: none"> ➤ Take directions from a supervisor or co-workers on work-related projects ➤ Give directions to co-workers on work-related projects ➤ Exchange information using trade terminology ➤ Provide details on facts ➤ Provide opinions on work-related projects ➤ Organize, present and interpret ideas in a logical manner ➤ Communicate one-on-one or in a group about complex work-related matters
Thinking Skills	<ul style="list-style-type: none"> ➤ Identify problems ➤ Apply learning from previous experiences to identify possible solutions to a problem ➤ Find, evaluate and choose appropriate information to solve a problem ➤ Evaluate the best possible solution to a problem ➤ Make decisions ➤ Plan and organize job tasks to set time-lines ➤ Ensure quality control standards are met

ESSENTIAL SKILL	REQUIRED ESSENTIAL SKILLS TASKS FOR TRADES
Working with Others	<ul style="list-style-type: none"> ➤ Complete tasks to industry standard under supervision ➤ Complete tasks to industry standard without supervision ➤ Complete assigned tasks to meet time-lines that meet project deadlines ➤ Accept feedback ➤ Give feedback ➤ Evaluate and apply recommendations from co-workers ➤ Resolve conflict ➤ Mentor an apprentice
Continuous Learning	<ul style="list-style-type: none"> ➤ Identify work/career strengths and areas for improvement ➤ Develop a work/career learning plan ➤ Set goals ➤ Participate in learning opportunities to meet workplace goals ➤ Apply new learning in the workplace environment ➤ Revisit, reflect and revise the learning plan regularly ➤ Engage in learning opportunities to keep skills current and meet career goals

