

Occupational Analyses Series

Motor Vehicle Body Repairer (Metal and Paint)

2005

Trades and Apprenticeship Division

Division des métiers et de l'apprentissage

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Direction des partenariats
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Débosseleur-peintre/débosseuse-peintre

The Canadian Council of Directors of Apprenticeship (CCDA) recognizes this Occupational Analysis as the national standard for the occupation of Motor Vehicle Body Repairer (Metal and Paint).

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OTHER RELATED OCCUPATIONAL TITLES

This analysis covers tasks performed by motor vehicle body repairers whose occupational title has been identified by some provinces and territories of Canada under the following names:

- Auto Body and Collision Damage Repairer (Branch 1)
- Auto Body Repairer
- Auto Body Repairer and Painter
- Auto Body Technician – Collision and Refinishing
- Automotive Collision Repair Technician
- Motor Vehicle Body Repair

LIST OF RED SEAL NATIONAL OCCUPATIONAL ANALYSES

TITLE	NOC* Code
Appliance Service Technician (1997)	7332
Automotive Painter (2005)	7322
Automotive Service Technician (2005)	7321
Baker (1997)	6252
Boilermaker (2003)	7262
Bricklayer (2000)	7281
Cabinetmaker (2000)	7272
Carpenter (1998)	7271
Cement Finisher (1995)	7282
Construction Electrician (2003)	7241
Cook (2003)	6242
Electrical Rewind Mechanic (1999)	7333
Electronics Technician – Consumer Products (1997)	2242
Farm Equipment Mechanic (2000)	7312
Floorcovering Installer (1997)	7295
Glazier (2004)	7292
Hairstylist (1997)	6271
Heavy Duty Equipment Technician (2004)	7312
Industrial Electrician (2003)	7242
Industrial Instrument Mechanic (2000)	2243
Industrial Mechanic (Millwright) (1999)	7311
Insulator (Heat and Frost) (2000)	7293
Ironworker (Generalist) (1993)	7264
Lather (Interior Systems Mechanic) (2002)	7284
Machinist (1998)	7231
Metal Fabricator (Fitter) (2003)	7263
Mobile Crane Operator (1997)	7371

Motorcycle Mechanic (1995)	7334
Motor Vehicle Body Repairer (Metal and Paint) (2005)	7322
Oil Burner Mechanic (1997)	7331
Painter and Decorator (2000)	7294
Partsperson (1995)	1472
Plumber (2003)	7251
Powerline Technician (2004)	7244
Recreation Vehicle Mechanic (2000)	7383
Refrigeration and Air Conditioning Mechanic (2004)	7313
Roofer (1997)	7291
Sheet Metal Worker (1997)	7261
Sprinkler System Installer (2003)	7252
Steamfitter – Pipefitter (1996)	7252
Tilesetter (2004)	7283
Tool and Die Maker (1997)	7232
Transport Trailer Technician (2003)	7321
Truck and Transport Mechanic (2000)	7321
Welder (2004)	7265

* National Occupational Classification

Requests for these publications should be forwarded to:

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These publications are also available to order or download online at: www.red-seal.ca.

FOREWORD

The first National Conference on Apprenticeship in Trades and Industries, held in Ottawa in 1952, recommended that the federal government be requested to co-operate with provincial apprenticeship committees and officials in preparing analyses of a number of skilled occupations. To this end, Human Resources and Skills Development Canada (HRSDC) sponsors a program, under the guidance of the Canadian Council of Directors of Apprenticeship (CCDA), to develop a series of occupational analyses.

The Occupational Analysis Program has the following objectives:

- to identify and group the tasks performed by skilled workers in particular occupations;
- to identify those tasks that are performed by skilled workers in every province and territory;
- to develop instruments for use in the preparation of Interprovincial Standards “Red Seal” Examinations and curricula for training leading to the certification of skilled workers;
- to facilitate the mobility, in Canada, of apprentices and skilled workers;
- to supply employers and employees, and their associations, industries, training institutions and governments with analyses of the tasks performed in particular occupations.

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ANALYSIS

BLOCK A OCCUPATIONAL SKILLS

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GUIDE TO ANALYSIS

DEVELOPMENT OF ANALYSIS

A draft analysis is developed by a committee of industry experts in the field led by a team of facilitators. This draft analysis identifies all the tasks performed in the occupation.

The draft is translated and reviewed by the NOA Team of HRSDC. A copy of this analysis is then forwarded to provincial/territorial authorities for review by specialists in the field. Their recommendations are assessed and incorporated into the final draft.

The occupational analysis is published in both official languages.

STRUCTURE OF ANALYSIS

To facilitate understanding of the nature of the occupation, the work performed is divided into the following divisions:

- BLOCK** – is the largest division within the analysis and reflects a distinct operation relevant to the occupation.
- TASK** – is the distinct activity that, combined with others, makes up the logical and necessary steps the worker is required to perform to complete a specific assignment within a “BLOCK”.
- SUB-TASK** – is the smallest division into which it is practical to subdivide any work activity and, combined with others, fully describes all duties constituting a “TASK”.

Supporting Knowledge & Abilities

The elements of skill and knowledge that an individual must acquire to adequately perform the sub-task.

Trends

Any shifts or changes in technology that affect the block.

Related Components

All components related to a specified task being undertaken by the motor vehicle body repairer.

Tools and Equipment

All tools and equipment necessary for the motor vehicle body repairer to complete a task.

VALIDATION METHOD

At the request of the Canadian Council of Directors of Apprenticeship (CCDA), the Standardization Subcommittee developed a method for validating the Red Seal National Occupational Analyses.

A draft of the analysis is sent to all jurisdictions for validation. Each jurisdiction rates the sub-tasks and applies percentage ratings to blocks and tasks. This method for the validation of the National Occupational Analysis identifies common core tasks across Canada for a specific occupation. This feature facilitates the weighting of the Interprovincial Standards “Red Seal” Examinations.

DEFINITIONS

YES: the sub-task is performed by workers in the occupation in a specific jurisdiction.

NO: the sub-task is not performed by workers in the occupation in a specific jurisdiction.

BLOCK %: the average number of questions (items), derived from the collective decision made by workers within the occupation from all areas of Canada, that will be placed on an interprovincial examination to assess each block of the analysis.

TASK %: the average number of questions (items), derived from the collective decision made by workers within the occupation from all areas of Canada, that will be placed on an interprovincial examination to assess each task of the analysis.

NV: Not Validated by a province/territory.

ND: Not Designated in a province/territory.

PROVINCIAL/TERRITORIAL ABBREVIATIONS

NL: Newfoundland and Labrador

NS: Nova Scotia

PE: Prince Edward Island

NB: New Brunswick

QC: Quebec

ON: Ontario

MB: Manitoba

SK: Saskatchewan

AB: Alberta

BC: British Columbia

NT: Northwest Territories

YT: Yukon

NU: Nunavut

COMMON CORE

The criteria for determining common core depend on the performance of sub-tasks. If at least 70% of the responding jurisdictions (excluding NVs and NDs) perform a sub-task, it shall be considered common core.

Interprovincial Standards “Red Seal” Examinations are based on the common core identified through this validation process. Validation identifies what will be assessed through the interprovincial examination.

BLOCKS AND TASKS WEIGHTING (APPENDIX D)

This appendix represents the block and task percentages as submitted by each jurisdiction.

Each jurisdiction, with the use of a provincial/territorial occupational advisory committee, validates the content, places percentages on blocks and tasks, and indicates whether or not the sub-tasks are performed by the skilled workers within the occupation. The results of this exercise are submitted to the NOA Team who then analyzes the data and develops this appendix which provides the individual jurisdictional validation results as well as the national averages of all responses.

PIE CHART (APPENDIX E)

The graph depicts the national percentages assigned to blocks in the analysis.

SCOPE OF THE MOTOR VEHICLE BODY REPAIRER (METAL AND PAINT) OCCUPATION

Motor vehicle body repairers (metal and paint) repair and restore damaged motor vehicle bodies as well as their collision-damaged mechanical and structural parts. Motor vehicle body repairers assess body damage and make repair estimates and calculations. Their repair work may range from correcting minor structural and cosmetic scratches and dents to fixing extensive structural damage to motor vehicles. Vehicle parts that are damaged beyond repair are replaced. The alignment and replacement of suspension and steering components is also a part of this trade. Restoring interior components of vehicles also falls within the scope of duties of these tradespeople. They also work with electronic components and passenger protection systems such as seat belts and air bags.

In this sector, most motor vehicle body repairers work in private enterprises or are self-employed. Journeypersons may be employed by body shops, auto and truck dealerships, custom shops, and trucking and bus companies. In larger shops or dealerships, there may be a division of responsibilities among the team of repair professionals. Some may work exclusively on collision damage repair, frame straightening, painting, suspension, mechanical, or auto glass installation. Generally in smaller shops, journeypersons tend to be responsible for a wider range of these duties. While they may work as part of the repair team, which includes other motor vehicle body repairers, automotive painters, automotive service technicians, and others in the automotive sector, journeypersons tend to carry out their duties alone.

Motor vehicle body repairers require proficiency with a variety of tools and equipment, some of which are technologically advanced. Hand and power tools are used in the repair and replacement of motor vehicle parts. Welding and soldering equipment are also used. Motor vehicle body repairers may work with a number of materials such as metal, glass, plastic and composites. Surface repairs require the application of body fillers. In addition, motor vehicle body repairers may prepare surfaces for refinishing and apply a variety of appropriate refinishing products. They must also have refinishing application and detailing skills.

Working environments vary in this trade. Typically, employees work indoors in an environment that can be noisy and dusty. However, many shops are well ventilated to avert health risks from dust and fumes. Health and safety are important issues for these tradespeople as they are frequently in contact with chemicals (e.g. paints, compounds, solvents) and physical hazards (e.g. frame equipment, sharp metal). Ongoing safety training and a good knowledge of safety standards and regulations are important.

Key attributes for people entering this trade are good communication skills, mechanical aptitudes, problem solving skills, an eye for detail, good colour vision, computer literacy and a commitment to ongoing training. Good physical condition and agility are important because the work often requires considerable standing, crawling, lifting, climbing, pulling and reaching.

With experience, journeypersons may move into supervisory positions, start their own business, or become auto damage appraisers for insurance companies. Some of the skills gained as a motor vehicle body repairer may be transferred to other occupations such as sheet metal worker or automotive service technician.

OCCUPATIONAL OBSERVATIONS

Technological advancements, design modifications, passenger safety and innovations in manufacturing continue to change the design and construction of motor vehicles.

Most vehicles built today employ unibody construction for passenger safety. Each body panel has an important place in the integral strength of the vehicle. Components that are now part of the unibody vehicle structure have increased the complexity of repair technology.

While motor vehicle body repairers still use heavy frame machines and simple gauges to repair heavy collision damage, they now tend to rely more on factory specification charts and use more sophisticated measuring and repair systems.

Tools, equipment and materials have advanced technologically. Many vehicles today are comprised of more than just base metals and glass. Many manufacturers increasingly use composites, aluminium and high-strength alloys. Hybrid and alternate fuel vehicles are becoming more prevalent in the marketplace.

Other new technologies include materials such as multichromatic paints, UV curing primers, direct-to-metal primers/surfacers and cycle-time reduction clearcoats. UV drying clearcoat technology has been introduced.

SAFETY

Safe working procedures and conditions, accident prevention and the preservation of health are of primary importance to industry in Canada. These responsibilities are shared and require the joint efforts of government, employers and employees. It is imperative that all parties are aware of circumstances and conditions that may lead to injury or harm. Safe learning experiences and environments can be created by controlling the variables and behaviours that may contribute to accidents or injury.

It is generally recognized that a safety-conscious attitude and work practices contribute to a healthy, safe and accident-free working environment.

It is imperative to apply and be familiar with the Occupational Health and Safety Acts and Workplace Hazardous Material Information System (WHMIS) Regulations. As well, it is essential to determine workplace hazards and take measures to protect oneself, co-workers, the public and the environment.

As safety education is an integral part of training in all jurisdictions, personal safety practices are not recorded in this document. However, the technical safety aspect relating to each task and sub-task are included throughout this analysis.

ANALYSIS

BLOCK A

OCCUPATIONAL SKILLS

Trends: More specialized tools made for specific tasks. More awareness around the importance of personal protective equipment. More knowledgeable consumers. More computer-based work organization such as on-line ordering, computerized estimating and databases. More standardized procedures.

Task 1 Uses documentation.

Related Components: Manuals, bulletins, flow charts, estimates, work orders, manufacturers' specifications, warning labels, WHMIS, MSDS.

Tools and Equipment: Computer, software, fax machine, calculator, telephone.

Sub-task

1.01 Uses manufacturers' specifications and repair procedures.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 1.01.01 knowledge of sources of specifications and information
- 1.01.02 ability to access specifications and information
- 1.01.03 ability to interpret manufacturers' specifications and repair procedures
- 1.01.04 ability to interpret and apply information from hard-copy and on-line technical manuals

Sub-task**1.02 Interprets estimates.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

1.02.01 knowledge of industry terminology

1.02.02 knowledge of vehicle construction

1.02.03 knowledge of estimate formats

Sub-task**1.03 Uses work orders.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

1.03.01 knowledge of vehicle construction

1.03.02 knowledge of industry terminology

1.03.03 knowledge of work order format

1.03.04 ability to follow work order

Sub-task**1.04 Interprets safety and environmental regulations.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

1.04.01 knowledge of location of safety and environmental regulations

1.04.02 knowledge of Workplace Hazardous Materials Information System (WHMIS) and Material Safety Data Sheet (MSDS) documents

- 1.04.03 ability to interpret safety symbols
- 1.04.04 ability to interpret federal, provincial/territorial and municipal regulations

Task 2 Uses tools and equipment.

Related Components: Applies to all components.

Tools and Equipment: See Appendix A.

Sub-task

2.01 Uses hand tools.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 2.01.01 knowledge of types of hand tools such as removal and installation, bumping and straightening, sanding and material application tools
- 2.01.02 knowledge of limitations of use of hand tools
- 2.01.03 knowledge of torque specifications
- 2.01.04 ability to maintain hand tools
- 2.01.05 ability to store hand tools
- 2.01.06 ability to recognize worn, broken and defective hand tools

Sub-task

2.02 Uses power tools.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 2.02.01 knowledge of types of power tools such as pneumatic, electric and hydraulic

- 2.02.02 knowledge of operating procedures
- 2.02.03 knowledge of limitations of use of power tools
- 2.02.04 ability to maintain power tools
- 2.02.05 ability to store power tools
- 2.02.06 ability to recognize hazards such as frayed cords, cracked case and leaking lines

Sub-task

2.03 Uses welding equipment.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 2.03.01 knowledge of types of welding equipment such as oxyacetylene, Gas Metal Arc Welding (GMAW [MIG]) and plastic
- 2.03.02 knowledge of operating procedures
- 2.03.03 knowledge of welding consumable materials such as wire, shield gases and tips
- 2.03.04 ability to identify material to be welded
- 2.03.05 ability to perform applicable welding procedures
- 2.03.06 ability to maintain welding equipment
- 2.03.07 ability to store welding equipment
- 2.03.08 ability to recognize potential hazards

Sub-task**2.04 Uses straightening equipment. Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV
					2.04.01		knowledge of types of straightening equipment such as benches, floor mounted and portable					
					2.04.02		knowledge of vehicle construction					
					2.04.03		knowledge of repair sequence					
					2.04.04		knowledge of measuring equipment					
					2.04.05		ability to secure and anchor vehicle					
					2.04.06		ability to attach equipment to vehicle					
					2.04.07		ability to maintain straightening equipment					
					2.04.08		ability to store straightening equipment					
					2.04.09		ability to recognize potential hazards					

Sub-task**2.05 Uses lifting equipment. Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV
					2.05.01		knowledge of lifting equipment such as hoists, jack stands, floor jacks and door jacks					
					2.05.02		knowledge of limitations of lifting equipment					
					2.05.03		knowledge of applications of lifting equipment					
					2.05.04		ability to recognize safe lifting locations or points					

- 2.05.05 ability to maintain lifting equipment with techniques such as lubricating, checking fluid levels and cleaning
- 2.05.06 ability to locate and recognize damaged components

Sub-task

2.06 Uses measuring equipment.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 2.06.01 knowledge of types of measuring equipment such as trams, centering gauges and lasers
- 2.06.02 knowledge of vehicle construction
- 2.06.03 knowledge of limitations of use of measuring equipment
- 2.06.04 ability to interpret and apply manufacturers' specifications
- 2.06.05 ability to use industry-related computer software
- 2.06.06 ability to perform basic calculations
- 2.06.07 ability to set up measuring system
- 2.06.08 ability to maintain measuring equipment
- 2.06.09 ability to store measuring equipment
- 2.06.10 ability to recognize potential hazards

Sub-task**2.07 Uses refinishing tools and equipment.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 2.07.01 knowledge of air pressures
- 2.07.02 knowledge of types of refinishing tools and equipment
- 2.07.03 knowledge of paint systems
- 2.07.04 ability to use personal fresh air system
- 2.07.05 ability to set up spray gun
- 2.07.06 ability to set up paint booth
- 2.07.07 ability to use paint mixing equipment such as agitators and scales
- 2.07.08 ability to use paint-related computer software
- 2.07.09 ability to maintain compressors
- 2.07.10 ability to maintain spray gun
- 2.07.11 ability to maintain paint booth

Sub-task**2.08 Uses personal protective equipment (PPE).****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 2.08.01 knowledge of types of PPE such as hearing, eye, skin and breathing protection
- 2.08.02 knowledge of PPE operations
- 2.08.03 knowledge of workplace safety and health regulations

2.08.04	ability to inspect and maintain PPE
2.08.05	ability to store PPE
2.08.06	ability to recognize worksite hazards

Task 3 Organizes work.

Related Components: Manuals, bulletins, flow charts, estimates, work orders, manufacturers' specifications, warning labels, WHMIS, MSDS, government safety regulations.

Tools and Equipment: Safety and first aid equipment, office equipment (computers, calculators, fax machine, telephone, intercom), digital camera, cleaning equipment, scheduling system.

Sub-task

3.01 Prepares damage estimate.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	no	yes	no	yes	yes	yes	yes	yes	yes	NV

3.01.01	knowledge of vehicle construction
3.01.02	knowledge of industry terminology
3.01.03	knowledge of repair procedures
3.01.04	ability to assess visible damage
3.01.05	ability to assess hidden damage
3.01.06	ability to determine required parts and material
3.01.07	ability to determine required labour
3.01.08	ability to determine required sublet
3.01.09	ability to determine required miscellaneous costs such as hazardous waste disposal fees, freight fees and taxes
3.01.10	ability to communicate with suppliers
3.01.11	ability to locate and interpret manufacturer-specific documentation

- 3.01.12 ability to perform calculations
- 3.01.13 ability to use computers and office equipment

Sub-task

3.02 Orders parts and materials.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	no	yes	yes	yes	yes	no	no	yes	yes	NV

- 3.02.01 knowledge of vehicle construction
- 3.02.02 knowledge of industry terminology
- 3.02.03 knowledge of parts and materials
- 3.02.04 knowledge of repair procedures
- 3.02.05 ability to communicate with suppliers
- 3.02.06 ability to locate and interpret documentation such as parts manuals, computer databases and work orders

Sub-task

3.03 Organizes parts and materials.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 3.03.01 knowledge of vehicle construction
- 3.03.02 knowledge of repair procedures
- 3.03.03 ability to identify parts and materials
- 3.03.04 ability to locate parts and materials
- 3.03.05 ability to store and inventory parts and materials
- 3.03.06 ability to interpret work order

Sub-task**3.04 Communicates with others.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

3.04.01 ability to use conflict resolution techniques

3.04.02 ability to explain technical information in layperson's terms

3.04.03 ability to communicate with related professionals such as tradespeople, appraisers and partspeople

3.04.04 ability to mentor apprentices

3.04.05 ability to operate communication equipment such as fax machines, two-way radios, computers and application software

Sub-task**3.05 Prepares work area.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

3.05.01 knowledge of repair procedures

3.05.02 ability to perform housekeeping

3.05.03 ability to select tools and equipment

3.05.04 ability to lay out tools and equipment

Sub-task**3.06 Maintains safe work environment.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- | | |
|---------|---|
| 3.06.01 | knowledge of WHMIS and MSDS and their locations |
| 3.06.02 | knowledge of PPE |
| 3.06.03 | knowledge of workers' rights and responsibilities |
| 3.06.04 | knowledge of location of safety equipment such as eye wash station, fire fighting equipment and first aid kit |
| 3.06.05 | knowledge of emergency procedures |
| 3.06.06 | knowledge of disposal and recycling procedures |
| 3.06.07 | ability to recognize fire hazards |
| 3.06.08 | ability to recognize hazardous settings |
| 3.06.09 | ability to recognize personal injury hazards |
| 3.06.10 | ability to communicate potential hazards |
| 3.06.11 | ability to perform basic first aid |
| 3.06.12 | ability to operate ventilation systems |
| 3.06.13 | ability to keep work area clean and free from clutter |

Task 4 Applies corrosion protection material.

Related Components: Wax oil, zinc oxide primer, etch primers, zinc chromate primer, vinyl wash primer, epoxy primer, dielectric grease, rubberized undercoating, gravel guards, e-coat, cold galvanized coating, drip check, seam sealer, body sealant.

Tools and Equipment: PPE (eye and hand protection, respirator), application equipment, ventilation systems.

Sub-task

4.01 Applies weld through primer. Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 4.01.01 knowledge of vehicle construction
- 4.01.02 knowledge of application procedures
- 4.01.03 knowledge of isocyanates
- 4.01.04 ability to interpret product manufacturers' recommended application procedures
- 4.01.05 ability to recognize types and extent of corrosion

Sub-task

4.02 Applies corrosion protection for electrical components. Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 4.02.01 knowledge of vehicle electrical systems and components
- 4.02.02 knowledge of material types
- 4.02.03 ability to interpret application procedures
- 4.02.04 ability to recognize types and extent of corrosion

Sub-task

4.03 Applies corrosion inhibitors.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 4.03.01 knowledge of corrosion inhibitors such as undercoating, zinc primers, vinyl primers and etch primers
- 4.03.02 knowledge of vehicle construction
- 4.03.03 ability to select material such as metal etch, epoxy and zinc chromate
- 4.03.04 ability to interpret application procedures
- 4.03.05 ability to apply seam sealers and undercoating
- 4.03.06 ability to use application equipment such as spray gun, applicator tools, brush and aerosols
- 4.03.07 ability to recognize types and extent of corrosion
- 4.03.08 ability to maintain and store equipment

Task 5 Repairs and replaces trim.

Related Components: Pin stripes, decals, mouldings, ground effects, spoilers, grills, bezels, after market accessories, vinyl roof, mud flaps, name plates and emblems, ornaments, grab handles, garnish mouldings, panel trim, scuff plates, kick pads, roof liners, bug deflector.

Tools and Equipment: Safety and first aid equipment, standard tool kit, pneumatic moulding remover, piano wire, putty knife, razor knife, eraser wheel, die grinder, drill, razor blades and holder, heat gun.

Sub-task**5.01 Removes trim.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

5.01.01	knowledge of types of trim
5.01.02	knowledge of vehicle construction
5.01.03	knowledge of fastening systems such as clips, adhesives and screws
5.01.04	ability to perform trim removal procedures

Sub-task**5.02 Installs trim.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

5.02.01	knowledge of types of trim
5.02.02	knowledge of vehicle construction
5.02.03	knowledge of fastening systems such as clips, adhesives and screws
5.02.04	knowledge of trim function
5.02.05	ability to prepare surface for trim installation
5.02.06	ability to prepare trim for installation
5.02.07	ability to perform trim installation procedures

Sub-task**5.03 Repairs trim.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

5.03.01	knowledge of types of trim
5.03.02	knowledge of trim function
5.03.03	knowledge of repair materials and equipment
5.03.04	ability to identify trim composition
5.03.05	ability to perform trim repair procedures such as plastic welding, heating, restoring shape and matching texture and patterns

Task 6 Performs final check.

Related Components: Applies to all components.

Tools and Equipment: Not applicable.

Sub-task**6.01 Inspects vehicle visually.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

6.01.01	knowledge of vehicle construction and components
6.01.02	knowledge of panel alignment and fit
6.01.03	ability to recognize industry standards such as colour, symmetry and appearance
6.01.04	ability to locate and identify imperfections

Sub-task**6.02 Performs operational check.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

6.02.01 knowledge of components' operation

6.02.02 ability to recognize component failures

Sub-task**6.03 Conducts road test.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

6.03.01 knowledge of road test procedures

6.03.02 ability to recognize acceptable vehicle performance

6.03.03 ability to legally operate a motor vehicle

6.03.04 ability to identify faults such as squeaks, leaks, rattles and wind noise

6.03.05 ability to check for road worthiness such as lights, alignment, exhaust and brakes

6.03.06 ability to recognize vehicle operation warning indicators such as ABS, air bag and "check engine" light

BLOCK B

FRAME AND STRUCTURAL COMPONENTS

Trends: Significant advancement in measuring and repair procedures allowing for repair of more severely damaged vehicles with greater accuracy. Becoming more cost effective to replace than to repair.

Task 7 Repairs structural components.

Related Components: Engine compartment, frame rails, rocker panels, A, B, and C pillars, windshield glass and moveable panel openings, passenger compartment, luggage compartment, structural glass, non-structural components such as outer panels, fascias and interior components.

Tools and Equipment: Safety and first aid equipment, standard tool kit, structural straightening equipment (frame bench, hydraulic equipment, clamps and fixtures, chains), welding and cutting equipment, heating equipment, power tools, hydraulic jacking equipment, measuring equipment, surge protectors.

Sub-task

7.01 Performs vehicle setup.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

7.01.01 knowledge of anchoring techniques for vehicle types such as unibody or frame

7.01.02 knowledge of anchoring equipment

7.01.03 ability to identify vehicle anchoring points

7.01.04 ability to anchor vehicle to structural repair device

7.01.05 ability to set up measuring system

Sub-task**7.02 Identifies extent of damage.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

7.02.01 knowledge of basic mathematics

7.02.02 ability to interpret measurements

7.02.03 ability to compare actual measurements to manufacturers' specifications

Sub-task**7.03 Removes components for access.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

7.03.01 knowledge of removal procedures

7.03.02 ability to identify components to be removed

7.03.03 ability to operate specialty tools such as engine lifts, pullers and spring compressors

7.03.04 ability to store removed components

Sub-task**7.04 Straightens structural components.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

7.04.01 knowledge of types of damage

7.04.02	knowledge of structural component composition such as high tensile steel, aluminium, magnesium and fibre reinforced composite
7.04.03	ability to use repair clamps and fixtures
7.04.04	ability to correct damage by pulling structures, stress relieving and reshaping
7.04.05	ability to identify fastening points for clamps and fixtures
7.04.06	ability to fasten clamps and fixtures

Sub-task

7.05 Verifies measurement and fit.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

7.05.01	knowledge of manufacturers' specifications for structural dimensions
7.05.02	knowledge of allowable tolerances
7.05.03	ability to visually inspect fit
7.05.04	ability to fit and align parts
7.05.05	ability to measure and compare to manufacturers' specifications

Sub-task

7.06 Installs components.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

7.06.01	knowledge of torque specifications
7.06.02	knowledge of installation procedures

7.06.03	knowledge of reusable and non-reusable fasteners and components
7.06.04	ability to follow installation sequence
7.06.05	ability to fit components

Task 8 Replaces structural components.

Related Components: Engine compartment, sub-frames, engine cradles, frame rails, rocker panels, A, B and C pillars, windshield glass and moveable panel openings, passenger compartment, luggage compartment, structural glass, non-structural components such as outer panels, fascias and interior components.

Tools and Equipment: Safety and first aid equipment, standard tool kit, structural straightening equipment (frame bench, hydraulic equipment, clamps and fixtures, chains), welding equipment, heating equipment, cutting equipment, power tools, hydraulic jacking equipment, measuring equipment, welding blanket, surge protectors.

Sub-task

8.01 Removes structural components.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

8.01.01	knowledge of vehicle construction
8.01.02	knowledge of manufacturers' removal procedures
8.01.03	ability to identify areas for sectioning
8.01.04	ability to perform removal procedures such as cutting, pneumatic chiselling, unfastening and removing spot welds

Sub-task

8.02 Installs structural components.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 8.02.01 knowledge of installation procedures
- 8.02.02 knowledge of manufacturers' specifications
- 8.02.03 knowledge of measuring techniques
- 8.02.04 knowledge of allowable tolerances
- 8.02.05 knowledge of materials and composites
- 8.02.06 ability to prepare structural components
- 8.02.07 ability to perform installation techniques such as welding, bonding and bolting
- 8.02.08 ability to align and fit

BLOCK C

OUTER BODY PANELS

Trends: Increased use of lighter materials such as composite and aluminium in panel composition. Becoming more cost effective to replace than to repair. Increased use of adhesives. Some manufacturers specify the use of silicon bronze welding techniques at non-structural joint welds.

Task 9 Repairs panels.

Related Components: Finish panels, panel extensions, door shells, door skins, roof panels, fenders, hood panels, bumpers, deck lids, quarter panel, rocker panel, screws, bolts, nuts, clips, adhesives, filler materials, stone chip protective materials, welding materials.

Tools and Equipment: Safety and first aid equipment, standard tool kit, welding equipment, hammer, dolly, pry bars, picks, dent puller, jacks, hydraulic equipment, air chisel, air drill.

Sub-task

9.01 Prepares panels for repair.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

9.01.01	knowledge of repair materials
9.01.02	knowledge of cleaning products
9.01.03	knowledge of abrasives and strippers
9.01.04	ability to determine panel composition
9.01.05	ability to identify top coat
9.01.06	ability to identify substrate
9.01.07	ability to remove panel components such as door handles and fender flares
9.01.08	ability to clean panel
9.01.09	ability to use abrasives and strippers

Sub-task

9.02 Reshapes panels.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV
					9.02.01							
					9.02.02							
					9.02.03							
					9.02.04							
					9.02.05							

Sub-task

9.03 Aligns panels.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV
					9.03.01							
					9.03.02							

Sub-task

9.04 Applies repair materials.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV
					9.04.01							
					9.04.02							

9.04.03 ability to select required repair materials

9.04.04 ability to prepare repair materials

Sub-task

9.05 Shapes repair materials.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

9.05.01 knowledge of types of repair materials and their properties

9.05.02 knowledge of abrasives

9.05.03 ability to sand material to desired contour by hand, block and machine sanding

Task 10 Replaces panels.

Related Components: Finish panels, panel extensions, door shells, door skins, roof panels, fenders, hood panels, bumpers, deck lids, quarter panel, rocker panel, trim, electrical components, screws, bolts, nuts, clips, adhesives, stone chip protective materials, welding materials.

Tools and Equipment: Safety and first aid equipment, standard tool kit, power tools, welding and cutting equipment, applicators, hydraulic jacking equipment.

Sub-task

10.01 Removes panels.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

10.01.01 knowledge of removal procedures

10.01.02 ability to identify panel composition

10.01.03 ability to remove necessary components for access

Sub-task

10.02 Prepares common surfaces.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 10.02.01 knowledge of abrasives
- 10.02.02 knowledge of fastening procedures
- 10.02.03 ability to sand common surfaces
- 10.02.04 ability to determine common surfaces
- 10.02.05 ability to determine need for corrosion protection such as weld through primer
- 10.02.06 ability to use cleaning products

Sub-task

10.03 Test fits panels.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 10.03.01 knowledge of methods for fastening a panel for test fitting
- 10.03.02 ability to align to adjacent panels
- 10.03.03 ability to identify and correct imperfections in fit

Sub-task

10.04 Installs panel.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 10.04.01 knowledge of vehicle construction

- 10.04.02 knowledge of bonding materials and their properties
- 10.04.03 ability to use attaching procedures such as welding, bonding and mechanical fastening
- 10.04.04 ability to fit panel
- 10.04.05 ability to use bonding materials
- 10.04.06 ability to perform welding techniques such as GMAW (MIG) welding and resistance spot welding
- 10.04.07 ability to use fasteners such as bolts, screws, nuts, clips, pins and bushings
- 10.04.08 ability to apply seam sealers
- 10.04.09 ability to apply sound deadeners such as sprays and pads

BLOCK D

GLASS

Trends: Increasing presence of electronic technology embedded in and attached to glass. More attention to standards related to installation, handling and removal.

Task 11 Replaces structural glass.

Related Components: Interior and exterior trim, wipers, antennas, electric defrost.

Tools and Equipment: Standard tool kit, cut out knives (pneumatic, electric, hand), utility knives, razor blades and holder, air blow gun, heat gun, vacuum, stands, primer applicators, applicator gun, suction cups, piano wire, gloves, tapes.

Sub-task

11.01 Prepares surfaces.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

11.01.01 knowledge of glass removal techniques

11.01.02 knowledge of structural glass applications

11.01.03 knowledge of bonding and priming material specifications such as expiry date and drying times

11.01.04 knowledge of types of bonding materials

11.01.05 ability to identify contamination

11.01.06 ability to clean surfaces

11.01.07 ability to apply primers such as pinch weld primers and glass primers

11.01.08 ability to apply bonding material such as urethane

Sub-task

11.02 Installs structural glass.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	yes	NV

- 11.02.01 knowledge of types of structural glass such as tempered and laminated
- 11.02.02 knowledge of glass handling techniques such as suction cups and gloves
- 11.02.03 knowledge of glass identification such as NAGS and OEM
- 11.02.04 knowledge of structural glass options such as antenna, heated glass, rain sensors and heads-up display
- 11.02.05 knowledge of types of urethane
- 11.02.06 ability to apply urethane bead
- 11.02.07 ability to perform test fit
- 11.02.08 ability to perform final fit
- 11.02.09 ability to fit mouldings

Sub-task

11.03 Repairs laminated glass.

Supporting Knowledge & Abilities

(NOT COMMON CORE)

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	no	no	yes	no	yes	yes	no	no	yes	no	NV

- 11.03.01 knowledge of types of repair equipment
- 11.03.02 ability to determine glass repairability
- 11.03.03 ability to use repair equipment

Task 12 Replaces non-structural glass.

Related Components: Interior and exterior trim, glass hardware.

Tools and Equipment: Standard tool kit, rope, hook tools, locking strip tools, spacing blocks.

Sub-task

12.01 Removes non-structural glass.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

12.01.01 knowledge of types of non-structural glass

12.01.02 knowledge of removal techniques

12.01.03 knowledge of component operation

12.01.04 knowledge of types of fasteners

12.01.05 ability to remove trim and components such as speakers, door pads and vapour barriers

12.01.06 ability to handle and store glass

Sub-task

12.02 Removes debris.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

12.02.01 knowledge of types of glass

12.02.02 knowledge of location of debris

12.02.03 knowledge of safety equipment and procedures

12.02.04 ability to perform cleaning techniques such as sweeping, vacuuming and blowing

Sub-task**12.03 Services hardware.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV
					12.03.01		knowledge of hardware components such as regulators, window guides, channel guides and latches					
					12.03.02		ability to identify defective hardware					
					12.03.03		ability to remove and replace defective hardware					
					12.03.04		ability to lubricate components					
					12.03.05		ability to repair and align hardware					
					12.03.06		ability to perform operational check					

Sub-task**12.04 Installs non-structural glass.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV
					12.04.01		knowledge of glass components					
					12.04.02		knowledge of bonding agents such as urethane and butyl					
					12.04.03		ability to use installation techniques with materials such as lock, rubber, bolt and rivet					
					12.04.04		ability to use specialty tools					
					12.04.05		ability to install trim					
					12.04.06		ability to perform operational check and alignment					

BLOCK E

MECHANICAL AND ELECTRICAL COMPONENTS

Trends: Increased complexity of electronics and mechanical components. Mechanical components have become an integral part of the unibody design.

Task 13 Repairs and replaces mechanical components.

Related Components:

- Suspension/steering system:** control arms, tie rods, rack and pinion, shocks, struts, ball joints, steering box, idler arms, steering column, steering wheel, sway bars, springs, shackles, road wheels, steering knuckles, bearings, tires, centre link, steering dampers, bushings.
- Drive train:** engine, transmission, axle, c/v joints, differentials, drive shaft.
- Exhaust system:** muffler, manifold, exhaust pipe, tail pipe, catalytic converter, resonator, hangers, clamps, sensors.
- Air intake system:** air cleaners, assemblies.
- Fuel system:** fuel pump, fuel injectors, tank, fuel lines, spark plugs, throttle body, sending units, emergency shut-off switch, filters.
- Heating/cooling system:** condenser, compressor, evaporator, lines, case, heater core, radiator, transmission coolers, power steering coolers, engine oil coolers, dryers, intercoolers, fans, shrouds, water pump, belts, pulleys, hoses, refrigerant, coolant.
- Braking system:** wheel cylinders, pads, shoes, drums, anti-lock brake systems (ABS), rotors, calipers, master cylinder, proportioning valves, brake tubing, brake hoses, wiring, brake fluid, sensors.
- Accessories:** wipers, winches, cruise control, traction control, compressors.

Tools and Equipment: Safety and first aid equipment, standard tool kit, hydraulic jacking equipment, specialty tools (press, ball joint remover, spring compressor, fuel storage unit, surge protector), welding and cutting equipment, heating equipment, measuring equipment.

Sub-task**13.01 Removes mechanical components.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

13.01.01 knowledge of manufacturers' removal procedures

13.01.02 ability to perform manufacturers' procedures

13.01.03 ability to identify components to be removed

13.01.04 ability to operate specialty tools

13.01.05 ability to lift and secure vehicle and components

13.01.06 ability to store components

Sub-task**13.02 Cleans mechanical components.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	NV

13.02.01 knowledge of component material

13.02.02 knowledge of cleaners and cleaning procedures

13.02.03 ability to operate cleaning equipment

13.02.04 ability to determine reusability of components

13.02.05 ability to transport and store components

Sub-task

13.03 Straightens mechanical components.

Supporting Knowledge & Abilities

(NOT COMMON CORE)

<u>NL</u> yes	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> no	<u>QC</u> no	<u>ON</u> no	<u>MB</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> yes	<u>YT</u> yes	<u>NU</u> NV
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13.03.01 knowledge of manufacturers' specifications

13.03.02 ability to determine reparability of components

Sub-task

13.04 Installs mechanical components.

Supporting Knowledge & Abilities

<u>NL</u> yes	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>QC</u> no	<u>ON</u> yes	<u>MB</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YT</u> yes	<u>NU</u> NV
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13.04.01 knowledge of manufacturers' specifications

13.04.02 ability to perform manufacturers' procedures

13.04.03 ability to follow installation sequence

13.04.04 ability to operate specialty tools

Task 14 Repairs and replaces electrical components.

Related Components: Lights, fans, anti-lock brake systems (ABS), power accessories, stereo, antenna, switches, gauges, sending units, battery, charging system, relays, computer, digital components (wiring harnesses).

Tools and Equipment: Safety and first aid equipment, standard tool kit, voltmeter, scanner, propane torch, heat gun.

Sub-task**14.01 Repairs damaged wires and exterior coverings.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	NV

14.01.01 knowledge of types of wires and coverings

14.01.02 knowledge of testing equipment such as voltmeters and test lights

14.01.03 knowledge of corrosion protection

14.01.04 ability to splice, cut and solder

14.01.05 ability to determine reparability of wires

14.01.06 ability to identify damaged wires

14.01.07 ability to reapply corrosion protection

14.01.08 ability to reapply coverings such as heat shrink, loom and electrical tape

Sub-task**14.02 Cleans corroded components and connections.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	NV

14.02.01 knowledge of cleaning tools and materials

14.02.02 knowledge of types of connectors

14.02.03 knowledge of reusability of coverings

14.02.04 ability to remove corrosion

- 14.02.05 ability to verify connection, ground, flow and current
- 14.02.06 ability to visually inspect coverings
- 14.02.07 ability to remove and replace coverings

Sub-task

14.03 Removes damaged electrical components.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	NV

- 14.03.01 knowledge of component operation
- 14.03.02 knowledge of removal procedures such as cutting, unfastening and disconnecting
- 14.03.03 ability to identify damaged components
- 14.03.04 ability to disconnect components
- 14.03.05 ability to store or dispose of components

Sub-task

14.04 Installs electrical components. Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	NV

- 14.04.01 knowledge of corrosion preventative materials
- 14.04.02 knowledge of manufacturers' requirements for installation of components such as computers, air bags and ABS
- 14.04.03 ability to splice, solder and perform electrical connections

- 14.04.04 ability to read electrical diagrams
- 14.04.05 ability to test and verify component operation
- 14.04.06 ability to apply corrosion preventative materials

BLOCK F

RESTRAINT SYSTEM AND INTERIOR COMPONENTS

Trends: Air bags and seat belt restraints have become more of an integrated system. More replacement of trim, air bags and related components due to increased air bag deployment locations.

Task 15 Repairs and replaces interior components.

Related Components: Seats, steering wheel, dash, console, headliner, door panels, visor, carpet, locks, switches, A, B and C pillar trims, seat belts, air bags, stereo, sunroof, child seat anchors, luggage nets, spare tire, accessories.

Tools and Equipment: Standard tool kit, steering wheel puller, plastic welder, refinishing tools and equipment.

Sub-task

15.01 Removes interior components.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 15.01.01 knowledge of types of fasteners
- 15.01.02 knowledge of removal sequence
- 15.01.03 ability to recognize damaged components
- 15.01.04 ability to store components

Sub-task

15.02 Installs interior components.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 15.02.01 knowledge of types of fasteners
- 15.02.02 knowledge of types of interior components

- 15.02.03 ability to install fasteners
- 15.02.04 ability to follow installation sequence

Sub-task

15.03 Repairs interior components. Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 15.03.01 knowledge of component composition
- 15.03.02 knowledge of repair products
- 15.03.03 knowledge of product manufacturers' procedures
- 15.03.04 ability to follow repair procedures
- 15.03.05 ability to contour components
- 15.03.06 ability to refinish components

Task 16 Replaces seat belt restraint systems.

Related Components: Trim, seats, doors, roof, pillar, floor, wiring, parcel shelf.

Tools and Equipment: Standard tool kit, diagnostic equipment.

Sub-task

16.01 Removes interior panels and upholstery. Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 16.01.01 knowledge of types of fasteners and attaching methods
- 16.01.02 ability to recognize damaged components

16.01.03 ability to follow removal sequence

16.01.04 ability to store components

Sub-task

16.02 Removes seat belt restraint systems.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

16.02.01 knowledge of types of seat belt restraint systems such as active and passive

16.02.02 knowledge of mounting hardware

16.02.03 knowledge of hardware removal procedure

16.02.04 ability to disconnect electrical connections

16.02.05 ability to remove mounting hardware

16.02.06 ability to follow removal sequence

16.02.07 ability to examine seat belt restraint systems

Sub-task

16.03 Installs seat belt restraint systems.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

16.03.01 knowledge of types of seat belt restraint systems such as active and passive

16.03.02 knowledge of manufacturers' specifications and installation procedures

16.03.03 knowledge of electrical connections

16.03.04 ability to install mounting hardware

16.03.05 ability to follow installation sequence

16.03.06 ability to verify component operation

Sub-task

16.04 Installs interior panels and upholstery.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

16.04.01 knowledge of types of fasteners

16.04.02 ability to follow installation sequence

16.04.03 ability to install fasteners

Task 17 Replaces air bag systems.

Related Components: Clock spring, sensors, connectors, seat belt pre-tensioners, steering wheel, seats, dash, door panels, windshield, interior trim, wiring.

Tools and Equipment: Safety and first aid equipment, standard tool kit, steering wheel puller, diagnostic equipment, operation simulator.

Sub-task

17.01 Removes air bags.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

17.01.01 knowledge of manufacturers' specifications and removal procedures

17.01.02 knowledge of air bag removal hazards

17.01.03 ability to disarm system

17.01.04 ability to disconnect air bag and connectors according to manufacturers' specifications

Sub-task

17.02 Removes related components. Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 17.02.01 knowledge of types of components
- 17.02.02 knowledge of manufacturers' specifications and procedures
- 17.02.03 ability to use specialty tools such as steering wheel puller
- 17.02.04 ability to locate and recognize related components

Sub-task

17.03 Replaces related components. Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 17.03.01 knowledge of manufacturers' specifications and replacement procedures
- 17.03.02 ability to determine location and alignment of components
- 17.03.03 ability to install electrical components and connections

Sub-task

17.04 Installs air bags. Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 17.04.01 knowledge of manufacturers' specifications and replacement procedures
- 17.04.02 knowledge of air bag installation hazards

- 17.04.03 knowledge of self-diagnostic system
- 17.04.04 ability to handle air bags
- 17.04.05 ability to install electrical components and connections

BLOCK G

REFINISHING

Trends: *Increasing use of UV technology as well as special effect colours.*

Task 18 Prepares surfaces.

Related Components: Interior and exterior body panels, bumpers, WHMIS, MSDS.

Tools and Equipment: Safety and first aid equipment, standard tool kit, sanding equipment, masking products and equipment, cleaning equipment and materials, preparation station.

Sub-task

18.01 Decontaminates area.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 18.01.01 knowledge of types of contaminants such as tar, sap, wax, oil, shine guard and grease
- 18.01.02 knowledge of procedures for handling contaminants and cleaning materials
- 18.01.03 ability to use cleaners such as solvents, soaps and cleaning clay
- 18.01.04 ability to use cleaning equipment such as pressure washer and brushes
- 18.01.05 ability to follow cleaning procedures
- 18.01.06 ability to dispose of used cleaning materials
- 18.01.07 ability to recognize hazards of cleaning materials

Sub-task**18.02 Sands surfaces.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

18.02.01 knowledge of abrasive products

18.02.02 knowledge of desired outcome

18.02.03 ability to use sanding techniques such as blocking and use of guide coats

18.02.04 ability to protect surrounding area

18.02.05 ability to prepare blend areas

Sub-task**18.03 Cleans sanded surfaces.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

18.03.01 knowledge of cleaning materials such as solvents and rubbing compounds

18.03.02 ability to perform cleaning techniques such as blowing and washing

18.03.03 ability to protect surrounding areas

Sub-task**18.04 Masks off surrounding area. Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

18.04.01 knowledge of masking materials such as tape, paper, poly and foam

18.04.02 ability to perform masking techniques such as masking jambs and back masking

Task 19 Prepares and applies refinishing materials.

Related Components: Interior and exterior body panels, bumpers.

Tools and Equipment: Safety and first aid equipment, paint booth, air compressor, agitators, paint suits, paint scales, spray guns, paint database, tack cloths, drying equipment.

Sub-task**19.01 Mixes refinishing materials. Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	yes	NV

19.01.01 knowledge of types of refinishing materials such as primers, sealers and topcoats

19.01.02 knowledge of manufacturers' specifications such as mixing ratios

19.01.03 knowledge of tinting procedures

19.01.04 knowledge of product quality maintenance procedures

19.01.05 knowledge of mixing hazards

19.01.06 ability to measure precise quantities

19.01.07 ability to strain materials

19.01.08 ability to dispose of environmentally sensitive materials

19.01.09 ability to store refinishing materials

Sub-task

19.02 Performs final wash and tack.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	yes	NV

19.02.01 knowledge of types of contaminants

19.02.02 knowledge of types of washing products

19.02.03 ability to clean refinishing area using techniques such as blowing, washing and tacking

19.02.04 ability to apply anti-static products

19.02.05 ability to set up paint booth

Sub-task

19.03 Applies material to surface.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	yes	NV

19.03.01 knowledge of spraying techniques such as cross and drop coating and colour and clear blending

19.03.02 knowledge of product specifications such as drying and flash times

19.03.03 ability to prime surface

19.03.04 ability to operate paint booth

19.03.05 ability to operate spray gun

19.03.06 ability to troubleshoot equipment

- 19.03.07 ability to clean spray equipment
- 19.03.08 ability to match finish such as colour, texture and type

Sub-task

19.04 Removes masking.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	yes	NV

- 19.04.01 knowledge of types of masking material
- 19.04.02 knowledge of unmasking techniques and time line limitations for mask removal
- 19.04.03 ability to clean work area
- 19.04.04 ability to dispose of material

BLOCK H

DETAILING

Trends: Consumers have higher expectations with the level of detailing service provided.

Task 20 Details exterior.

Related Components: All exterior surfaces, WHMIS, MSDS.

Tools and Equipment: Safety and first aid equipment, power polishers, wash mitts, wash brushes, tire brushes, water hose, overspray clay, pressure washers, sandpaper, sanding equipment.

Sub-task

20.01 Polishes vehicle.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 20.01.01 knowledge of surface defects such as nibs, runs and overspray
- 20.01.02 ability to operate polishing equipment such as hand, electric and air-powered equipment
- 20.01.03 ability to remove defects
- 20.01.04 ability to store polishing equipment

Sub-task

20.02 Washes vehicle.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 20.02.01 knowledge of types of cleaners such as tire cleaners, exterior soap and window cleaners
- 20.02.02 knowledge of paint care procedures

- 20.02.03 ability to identify surface contaminants
- 20.02.04 ability to operate washing equipment such as mitts, brushes and pressure washer

Sub-task

20.03 Removes overspray.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 20.03.01 knowledge of types of overspray such as paint and undercoat
- 20.03.02 knowledge of topcoats and surfaces
- 20.03.03 ability to follow removal procedures

Task 21 Details interior.

Related Components: Seats, carpets, dash, headliners, door panels, consoles.

Tools and Equipment: Safety and first aid equipment, vacuum cleaner, blow gun, brushes, shampooer.

Sub-task

21.01 Cleans interior.

Supporting Knowledge & Abilities

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

- 21.01.01 knowledge of cleaning and stain removal products
- 21.01.02 ability to use cleaning and stain removal tools
- 21.01.03 ability to use debris removal tools such as vacuum, air blower and shampooer

Sub-task**21.02 Cleans hard surfaces.****Supporting Knowledge & Abilities**

<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV

21.02.01 knowledge of types of cleaners such as rubbing compounds and soap

21.02.02 knowledge of types of cleaning equipment

21.02.03 knowledge of surface composition

21.02.04 knowledge of cleaning precautions

21.02.05 ability to perform various cleaning techniques and procedures

APPENDICES

TOOLS AND EQUIPMENT

Safety and First Aid Equipment

air purifying respirator (charcoal)	first aid kit
coveralls	fresh air respirator
dust mask	gloves
ear protectors	goggles
eye wash station	latex gloves
face shield	respirator
fire blanket	safety eye wear
fire extinguishers	safety footwear
fire hoses	

Standard Tool Kit

Allen keys	ratchets (air and hand)
air blow guns	razor blades and holder
caulking gun	sanders
clamps	sanding blocks
crimping tools	screwdrivers
cut out knives (pneumatic, electric, hand)	slide hammer
cut-off tool	sockets, extensions and swivels
die grinder	soldering tools
dollies	specialty bits
drill	spoons
drill bits	squeegees
DVOM (digital voltage ohmmeter)	stands
files	straight edge
flange tool	suction cups
grinders	tapes
hack saw	test light
hammers	tin snips
heat gun	tip cleaner
magnet	torque wrench
marking tools	trim clip removal tools
measuring tape	trouble light
metal chisels	utility knife
pick	vice grips
pliers	wire cutters
pry bars	wire stripping tools
punches	wire wheel brushes
putty knife and scrapers	wrenches

Shop Tools and Equipment

a/c tools and equipment	hoists
air chisel	hook tools
air compressor	hot/cold glass removal tools
air drill	hydraulic jacking equipment
air hoses	intercom
applicator guns	jack stands
ball joint remover	jacks
benches	lasers
bench grinder	locking strip tools
body dimensional measuring equipment	operation simulator
calculator	piano wire
centering gauges	plastic repair equipment
chains	pneumatic air chisel
clamps and fixtures	pneumatic moulding remover
computer and software	primer applicators
computerized diagnostic equipment	pullers
continuity tester	rivet gun
corrosion protection applicator	rope
curing light	sand blaster
dent puller	scanner
digital camera	seam sealer applicator
door jacks	service light
engine lifts	spacing blocks
fax machine	spot sand blaster
frame and unibody repair equipment	spring compressor
frame bench	steering wheel puller
frame flange tool	storage boxes or hangers
frame gauging equipment	stretchers
friction jack	structural straightening equipment
fuel storage unit	telephone
gun cleaner	trams
hand sanding equipment	ultrasonic equipment
heating equipment	voltmeter

Welding and Cutting Equipment

cutting torch	surge protector
GMAW (MIG) welder	welding blankets
oxyacetylene equipment	welding clamps
plasma cutter	welding coveralls/apron
plastic welder	welding gloves
propane torch	welding helmet
resistance spot welder	welding mask

Refinishing and Detailing Equipment

agitators	paint mixing machine
brushes	paint scales
computerized mixing system	spray guns
drying equipment (curing light)	paint suits
environmentally safe disposal containers	power polishers
eraser wheel	preparation station
gun wash station	pressure applicators
isocyanate venting system	primer application equipment
masking equipment	sanding equipment
microfiches	sandpapers
mixing tools	solvent recycler
overspray clay	solvent resistant gloves
paint application equipment	strainers
paint booth	tack cloths
paint database	test cards
paint measuring sticks	

Cleaning Equipment

blow gun	shovels
brooms	soap
brushes	tire brushes
chamois	vacuum cleaner
pressure washers	wash brushes
razor blades	wash mitts
shampooer	water hose

GLOSSARY

abrasives	material used for cleaning or surface roughening such as sand, aluminium oxide or silicone carbide.
active restraint systems	mainly standard type seat belt systems which must be engaged by the individual.
air bags	refers to inflatable restraints located in steering wheels, dashes, seats, doors, pillars, roof rails, and headliners.
Block A Occupational Skills	repetitive general skills for many tasks performed by a motor vehicle body repairer.
Block B Frame and Structural Components	provides the vehicle with strength and structural integrity.
Block C Outer Body Panels	portions of a motor vehicle that are attached to the frame or structural components of the vehicle by welding, bonding or by mechanical attachments.
Block D Glass	a hard transparent substance that is laminated or tempered and sometimes tinted. Motor vehicle glass can be fixed as in windshields and rear windows or moveable as in side windows.
Block E Mechanical and Electrical Components	mechanical components consists of the moving parts that produce motion or a state of balance including suspension systems (steering and suspension), cooling systems, air conditioning systems, brake systems, the power train and the exhaust system. Electrical components are designed to perform a specific function (e.g. radio, defrost, cruise control) or to generate, store and distribute electricity (e.g. battery, charging system, relays).
Block F Restraint Systems and Interior Components	restraint systems consist of passive or reactive safety components which provide occupants with injury protection in the event of a collision. Interior components consists of trim, upholstery and panels within the vehicle.
Block G Refinishing	provides a smooth and level surface upon which paint will adhere, by sanding, filling, cleaning and priming the surface prior to the application of a final colour coat.
Block H Detailing	all activities performed for final preparation for delivery to the customer; detailing includes but is not limited to installation of trim and accessories, cleaning and polishing.

conventional frame motor vehicle	a motor vehicle consisting of a rigid, heavy frame to which all mechanical and body components are fastened.
glass hardware	glass hardware consists of moveable and adjustable parts and components that ensure the operation of moveable glass and consists of but is not limited to tracks, glass run channels, plastic guides, stops and regulators.
passive restraint systems	passive restraint systems include components such as dash, pads, head rest, collapsible steering columns and knee bolsters, motorized seat belts.
structural components	any primary-stress-bearing portion of the body structure that affects its over-the-road performance or crash-worthiness.
structural glass	a specific type of glass with a special design and installation process that adds to the structural integrity of the vehicle.
substrate	the surface that is to be finished (painted); can be anything from an old finish or primer to an unpainted surface.
unibody motor vehicle	vehicle design in which parts of the body structure serve as support for overall vehicle.
unitized sub-frame motor vehicle	a unitized body frame that incorporates front or rear bolt on frame section.

ACRONYMS

ABS	Antilock Brake System
GMAW	Gas Metal Arc Welding (also called MIG welding)
MIG welding	Metal Inert Gas Welding (also called GMAW)
MSDS	Material Safety Data Sheet
NAGS	National Auto Glass Society (Standardized Glass Numbering System)
OEM	Original Equipment Manufacturer
PPE	Personal Protective Equipment
WHMIS	Workplace Hazardous Materials Information System

BLOCKS AND TASKS WEIGHTING**BLOCK A OCCUPATIONAL SKILLS**

	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	National Average
%	15	10	10	13	15	5	6	18	5	25	10	13	NV	12%

Task 1 Uses documentation.

	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	
%	13	23	16	13	15	20	14	7	10	25	20	15	NV	16%

Task 2 Uses tools and equipment.

	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	
%	26	25	20	22	25	30	31	58	30	30	30	25	NV	29%

Task 3 Organizes work.

	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	
%	19	20	20	15	15	10	13	5	20	18	10	15	NV	15%

Task 4 Applies corrosion protection material.

	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	
%	13	15	16	20	15	10	14	8	10	8	10	15	NV	13%

Task 5 Repairs and replaces trim.

	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	
%	14	10	16	20	15	20	18	13	10	14	20	18	NV	16%

Task 6 Performs final check.

	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	
%	15	7	12	10	15	10	10	9	20	5	10	12	NV	11%

BLOCK B FRAME AND STRUCTURAL COMPONENTS

													National Average	
%	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	21%
	20	25	17	20	25	25	23	20	20	20	20	19	NV	

Task 7 Repairs structural components.

%	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	55%
	53	60	55	50	50	60	60	60	50	50	50	60	NV	

Task 8 Replaces structural components.

%	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	45%
	47	40	45	50	50	40	40	40	50	50	50	40	NV	

BLOCK C OUTER BODY PANELS

													National Average	
%	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	17%
	15	20	16	13	17	15	20	18	20	20	10	24	NV	

Task 9 Repairs panels.

%	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	55%
	50	60	60	54	60	70	50	51	50	40	60	60	NV	

Task 10 Replaces panels.

%	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	45%
	50	40	40	46	40	30	50	49	50	60	40	40	NV	

BLOCK D GLASS

													National Average	
%	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	7%
	7	8	10	10	8	10	8	5	3	4	5	6	NV	

Task 11 Replaces structural glass.

%	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	57%
	53	65	70	60	65	70	60	55	50	30	60	50	NV	

Task 12 Replaces non-structural glass.

	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	
%	47	35	30	40	35	30	40	45	50	70	40	50	NV	43%

BLOCK E MECHANICAL AND ELECTRICAL COMPONENTS

													National Average	
%	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	10%
	8	12	10	15	2	10	11	7	15	10	15	6	NV	

Task 13 Repairs and replaces mechanical components.

	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	
%	50	75	50	54	100	50	50	63	50	70	50	60	NV	60%

Task 14 Repairs and replaces electrical components.

	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	
%	50	25	50	46	0	50	50	37	50	30	50	40	NV	40%

BLOCK F RESTRAINT SYSTEM AND INTERIOR COMPONENTS

													National Average	
%	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	9%
	8	7	10	13	3	10	11	7	10	7	10	7	NV	

Task 15 Repairs and replaces interior components.

	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	
%	33	20	20	30	40	10	20	30	10	35	20	30	NV	25%

Task 16 Replaces seat belt restraint systems.

	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	
%	30	30	40	30	30	30	30	29	45	30	40	30	NV	33%

Task 17 Replaces air bag systems.

	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	
%	37	50	40	40	30	60	50	41	45	35	40	40	NV	42%

BLOCK G REFINISHING

													National Average	
%	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	18%
	17	15	17	9	25	20	16	20	25	10	20	19	NV	

Task 18 Prepares surfaces.

	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	53%
%	50	50	60	44	40	50	40	60	50	100	30	60	NV	

Task 19 Prepares and applies refinishing materials.

	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	47%
%	50	50	40	56	60	50	60	40	50	0	70	40	NV	

BLOCK H DETAILING

													National Average	
%	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	6%
	10	3	10	7	5	5	5	5	2	4	10	6	NV	

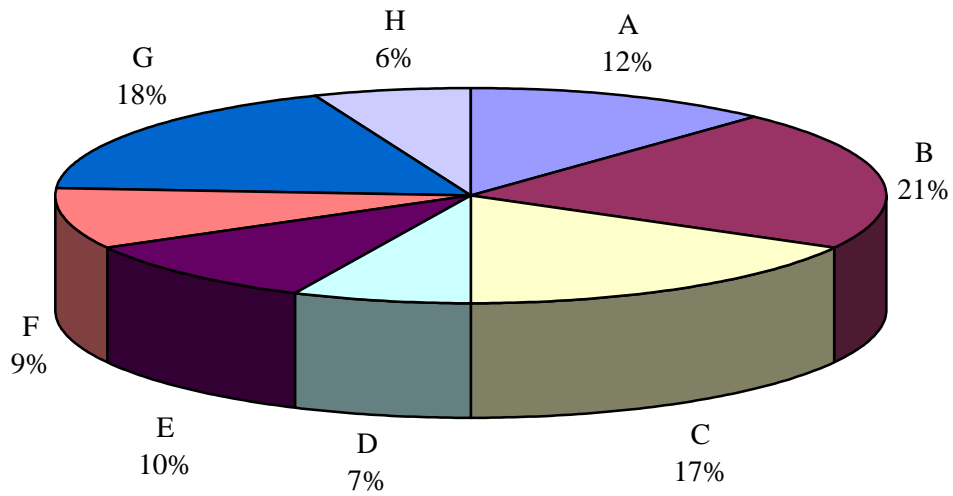
Task 20 Details exterior.

	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	61%
%	53	60	55	55	50	75	65	57	50	70	80	65	NV	

Task 21 Details interior.

	<u>NL</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>QC</u>	<u>ON</u>	<u>MB</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YT</u>	<u>NU</u>	39%
%	47	40	45	45	50	25	35	43	50	30	20	35	NV	

PIE CHART*



TITLES OF BLOCKS

- | | |
|---|--|
| Block A Occupational Skills | Block E Mechanical and Electrical Components |
| Block B Frame and Structural Components | Block F Restraint System and Interior Components |
| Block C Outer Body Panels | Block G Refinishing |
| Block D Glass | Block H Detailing |

* Average percentage of the total number of questions on an interprovincial examination, assigned to assess each block of the analysis, as derived from the collective input from workers within the occupation from all areas of Canada. Interprovincial examinations typically have from 100 up to 150 multiple-choice questions on each examination.

TASK PROFILE CHART – MOTOR VEHICLE BODY REPAIRER (METAL AND PAINT) (2005)

BLOCKS	TASKS	← SUB-TASKS →																	
A	OCCUPATIONAL SKILLS	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td data-bbox="832 243 1034 372">1.01 Uses manufacturers' specifications and repair procedures.</td> <td data-bbox="1034 243 1236 372">1.02 Interprets estimates.</td> <td data-bbox="1236 243 1439 372">1.03 Uses work orders.</td> <td data-bbox="1439 243 1641 372">1.04 Interprets safety and environmental regulations.</td> <td colspan="4"></td> <td colspan="2"></td> </tr> </table>								1.01 Uses manufacturers' specifications and repair procedures.	1.02 Interprets estimates.	1.03 Uses work orders.	1.04 Interprets safety and environmental regulations.						
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	2. Uses tools and equipment.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td data-bbox="832 425 1034 554">2.01 Uses hand tools.</td> <td data-bbox="1034 425 1236 554">2.02 Uses power tools.</td> <td data-bbox="1236 425 1439 554">2.03 Uses welding equipment.</td> <td data-bbox="1439 425 1641 554">2.04 Uses straightening equipment.</td> <td data-bbox="1641 425 1843 554">2.05 Uses lifting equipment.</td> <td data-bbox="1843 425 2045 554">2.06 Uses measuring equipment.</td> <td data-bbox="2045 425 2247 554">2.07 Uses refinishing tools and equipment.</td> <td data-bbox="2247 425 2449 554">2.08 Uses personal protective equipment (PPE).</td> <td colspan="2"></td> </tr> </table>								2.01 Uses hand tools.	2.02 Uses power tools.	2.03 Uses welding equipment.	2.04 Uses straightening equipment.	2.05 Uses lifting equipment.	2.06 Uses measuring equipment.	2.07 Uses refinishing tools and equipment.	2.08 Uses personal protective equipment (PPE).		
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	3. Organizes work.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td data-bbox="832 606 1034 735">3.01 Prepares damage estimate.</td> <td data-bbox="1034 606 1236 735">3.02 Orders parts and materials.</td> <td data-bbox="1236 606 1439 735">3.03 Organizes parts and materials.</td> <td data-bbox="1439 606 1641 735">3.04 Communicates with others.</td> <td data-bbox="1641 606 1843 735">3.05 Prepares work area.</td> <td data-bbox="1843 606 2045 735">3.06 Maintains safe work environment.</td> <td colspan="3"></td> </tr> </table>								3.01 Prepares damage estimate.	3.02 Orders parts and materials.	3.03 Organizes parts and materials.	3.04 Communicates with others.	3.05 Prepares work area.	3.06 Maintains safe work environment.				
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4. Applies corrosion protection material.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td data-bbox="832 788 1034 917">4.01 Applies weld through primer.</td> <td data-bbox="1034 788 1236 917">4.02 Applies corrosion protection for electrical components.</td> <td data-bbox="1236 788 1439 917">4.03 Applies corrosion inhibitors.</td> <td colspan="5"></td> </tr> </table>								4.01 Applies weld through primer.	4.02 Applies corrosion protection for electrical components.	4.03 Applies corrosion inhibitors.								
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5. Repairs and replaces trim.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td data-bbox="832 969 1034 1098">5.01 Removes trim.</td> <td data-bbox="1034 969 1236 1098">5.02 Installs trim.</td> <td data-bbox="1236 969 1439 1098">5.03 Repairs trim.</td> <td colspan="5"></td> </tr> </table>								5.01 Removes trim.	5.02 Installs trim.	5.03 Repairs trim.								
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6. Performs final check.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td data-bbox="832 1151 1034 1280">6.01 Inspects vehicle visually.</td> <td data-bbox="1034 1151 1236 1280">6.02 Performs operational check.</td> <td data-bbox="1236 1151 1439 1280">6.03 Conducts road test.</td> <td colspan="5"></td> </tr> </table>								6.01 Inspects vehicle visually.	6.02 Performs operational check.	6.03 Conducts road test.								
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B	FRAME AND STRUCTURAL COMPONENTS	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td data-bbox="832 1352 1034 1481">7.01 Performs vehicle setup.</td> <td data-bbox="1034 1352 1236 1481">7.02 Identifies extent of damage.</td> <td data-bbox="1236 1352 1439 1481">7.03 Removes components for access.</td> <td data-bbox="1439 1352 1641 1481">7.04 Straightens structural components.</td> <td data-bbox="1641 1352 1843 1481">7.05 Verifies measurement and fit.</td> <td data-bbox="1843 1352 2045 1481">7.06 Installs components.</td> <td colspan="2"></td> </tr> </table>								7.01 Performs vehicle setup.	7.02 Identifies extent of damage.	7.03 Removes components for access.	7.04 Straightens structural components.	7.05 Verifies measurement and fit.	7.06 Installs components.				
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8. Replaces structural components.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td data-bbox="832 1534 1034 1663">8.01 Removes structural components.</td> <td data-bbox="1034 1534 1236 1663">8.02 Installs structural components.</td> <td colspan="6"></td> </tr> </table>								8.01 Removes structural components.	8.02 Installs structural components.									
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MOTOR VEHICLE BODY REPAIRER (METAL AND PAINT) (2005)

	BLOCKS	TASKS	← SUB-TASKS →				
C	OUTER BODY PANELS	9. Repairs panels.	9.01 Prepares panels for repair.	9.02 Reshapes panels.	9.03 Aligns panels.	9.04 Applies repair materials.	9.05 Shapes repair materials.
		10. Replaces panels.	10.01 Removes panels.	10.02 Prepares common surfaces.	10.03 Test fits panels.	10.04 Installs panel.	
D	GLASS	11. Replaces structural glass.	11.01 Prepares surfaces.	11.02 Installs structural glass.	11.03 Repairs laminated glass. (NOT COMMON CORE)		
		12. Replaces non-structural glass.	12.01 Removes non-structural glass.	12.02 Removes debris.	12.03 Services hardware.	12.04 Installs non-structural glass.	
E	MECHANICAL AND ELECTRICAL COMPONENTS	13. Repairs and replaces mechanical components.	13.01 Removes mechanical components.	13.02 Cleans mechanical components.	13.03 Straightens mechanical components. (NOT COMMON CORE)		13.04 Installs mechanical components.
		14. Repairs and replaces electrical components.	14.01 Repairs damaged wires and exterior coverings.	14.02 Cleans corroded components and connections.	14.03 Removes damaged electrical components.	14.04 Installs electrical components.	
F	RESTRAINT SYSTEM AND INTERIOR COMPONENTS	15. Repairs and replaces interior components.	15.01 Removes interior components.	15.02 Installs interior components.	15.03 Repairs interior components.		
		16. Replaces seat belt restraint systems.	16.01 Removes interior panels and upholstery.	16.02 Removes seat belt restraint systems.	16.03 Installs seat belt restraint systems.	16.04 Installs interior panels and upholstery.	
		17. Replaces air bag systems.	17.01 Removes air bags.	17.02 Removes related components.	17.03 Replaces related components.	17.04 Installs air bags.	

MOTOR VEHICLE BODY REPAIRER (METAL AND PAINT) (2005)

BLOCKS		TASKS	SUB-TASKS			
G	REFINISHING	18. Prepares surfaces.	18.01 Decontaminates area.	18.02 Sands surfaces.	18.03 Cleans sanded surfaces.	18.04 Masks off surrounding area.
		19. Prepares and applies refinishing materials.	19.01 Mixes refinishing materials.	19.02 Performs final wash and tack.	19.03 Applies material to surface.	19.04 Removes masking.
H	DETAILING	20. Details exterior.	20.01 Polishes vehicle.	20.02 Washes vehicle.	20.03 Removes overspray.	
		21. Details interior.	21.01 Cleans interior.	21.02 Cleans hard surfaces.		