

Occupational Analyses Series

Automotive Painter

2005

Trades and Apprenticeship Division

Division des métiers et de l'apprentissage

Human Resources
Partnerships Directorate

Direction des partenariats
en ressources humaines

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Peintre d'automobiles

The Canadian Council of Directors of Apprenticeship (CCDA) recognizes this Occupational Analysis as the national standard for the occupation of Automotive Painter.

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OTHER RELATED OCCUPATIONAL TITLES

This analysis covers tasks performed by automotive painters whose occupational title has been identified by some provinces and territories of Canada under the following names:

- Auto Body Technician – Auto Body Refinisher
- Automotive Painting and Refinishing Technician
- Motor Vehicle Body Refinisher
- Motor Vehicle Body Refinisher Sub-Trade
- Motor Vehicle Body Repair – Refinishing
- Motor Vehicle Body Repair Painter
- Motor Vehicle Body Repairer – Refinishing

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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Human Resources Partnerships
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Gatineau, Quebec K1A 0J9**

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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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 automotive painter.

Tools and Equipment

All tools and equipment necessary for the automotive painter 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 C)

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 D)

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

SCOPE OF THE AUTOMOTIVE PAINTER TRADE

Automotive painters work on the surfaces of motor vehicles, primarily in restoring vehicles to their original condition following damage and subsequent auto body repair. Generally, automotive painting begins when body work has been completed. Some of the duties that an automotive painter completes include: removing exterior trim and hardware; removing layers of sub-coating; matching colours and mixing paints; preparing metal surfaces for painting by spot filling, sanding, and masking; applying primers, primer surfacers, enamels, clearcoats and urethanes; cleaning and polishing painted surfaces including removing and replacing decals; and applying anti-corrosive treatments.

Automotive painters use hand and power tools in their work. Commonly used tools are sanders and spray guns. Computers and related software may be used in some workplaces for computerized paint colour reading, generating paint formulas and tinting. In some workplaces, decals and graphics are produced by computerized equipment.

Journeypeople in this trade usually work indoors and can expect a work environment that includes paint fumes, dust and noise. Health and safety are important issues for automotive painters, as they are exposed to chemical (e.g. paints, compounds, solvents) and physical (e.g. spray guns, sanders) hazards. Ongoing safety training and a good knowledge of government safety standards and regulations are important in providing a safer working environment.

Many automotive painters work in close contact with motor vehicle body repairers who tend to work in auto body shops or dealerships. Automotive painting duties may overlap with motor vehicle body repairers' duties, particularly in small shops. In larger places of employment, automotive painters likely work as specialists, after body repairs have been completed. While they may work as part of the repair team, automotive painters tend to work independently.

Key attributes for people entering this trade include: mechanical aptitude; manual dexterity; good colour vision; the ability to do precise work that requires attention to detail; and an eye for creativity. Good physical condition and agility are important because the work often requires considerable standing, bending, crouching, kneeling and reaching.

Being an automotive painter is very self-rewarding. With experience, journeypersons have a number of career options, including supervisory or teaching/training in the field.

OCCUPATIONAL OBSERVATIONS

The use of environmentally friendly materials is becoming more common in the trade. Regulations controlling their use and disposal are becoming more strict.

New painting equipment such as High Volume Low Pressure (HVLP) sprayers and higher calibre sprayers that apply paints more efficiently has decreased paint waste. The composition of paints has been one of the bigger changes that the industry has seen recently. The introduction of high-solid contents and water-borne paints has decreased the level of solvent fumes, as well as the use and disposal of solvents. Solvent recycling has in many cases dramatically decreased solvent waste and costs associated with this industry.

Other new technologies involve the use of Ultraviolet (UV) curing technology, direct-to-metal primer surfacers and cycle-time reduction clears.

Computer software is playing a major role in colour formula retrieval and assists in colour matching. While these high technology tools are helpful, they are only supplemental to the trained eye of an experienced professional automotive painter who is attuned to fine detail.

Because of the high capital expenditure required to set up a stand-alone paint shop, automotive painters tend not to be self-employed.

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: Electronic access to information such as manuals and updates becoming more common. Increased use of digital spray guns and high transfer efficiency spray equipment such as HVLP (High Volume Low Pressure), LVLP (Low Volume Low Pressure) and RP (Reduced Pressure) resulting in less overspray. Increased use of fresh air supplied respirators and power tools with dust extraction.

Task 1 Uses documentation.

Related Components: Technical manuals and bulletins, safety and environmental regulations, repair estimates, WHMIS documents, work orders.

Tools and Equipment: Computer, software.

Sub-task

1.01 Interprets vehicle information.

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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

- 1.01.01 knowledge of industry terminology
- 1.01.02 knowledge of vehicle manufacturers' makes and models
- 1.01.03 knowledge of vehicle information such as year of vehicle, VIN (vehicle identification number) and production date
- 1.01.04 ability to locate paint codes
- 1.01.05 ability to interpret paint codes

Sub-task**1.02 Interprets technical manuals and bulletins.****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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

1.02.01	knowledge of types of technical manuals and bulletins
1.02.02	knowledge of location of manuals and bulletins in shop
1.02.03	knowledge of industry terminology
1.02.04	ability to access manuals and bulletins in electronic and printed formats
1.02.05	ability to interpret paint codes
1.02.06	ability to interpret product information data sheets

Sub-task**1.03 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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

1.03.01	knowledge of WHMIS (Workplace Hazardous Materials Information System)
1.03.02	knowledge of jurisdictional regulations
1.03.03	knowledge of VOC (volatile organic compounds) and VOC tracking procedures
1.03.04	knowledge of types of paint such as water-borne and high-solids
1.03.05	knowledge of storage requirements before and after use

- 1.03.06 knowledge of restrictions on use and handling of hazardous waste
- 1.03.07 ability to locate MSDS (Material Safety Data Sheets)
- 1.03.08 ability to access regulations in electronic and printed formats

Sub-task

1.04 Contributes to development of repair 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>
NV	yes	no	no	yes	yes	yes	yes	yes	yes	yes	NV	NV

- 1.04.01 knowledge of repair techniques such as blending, butt matching and spot repair
- 1.04.02 ability to identify extent of refinishing required
- 1.04.03 ability to identify types of paint finish such as tri-colour, single stage and two-stage
- 1.04.04 ability to communicate with estimator

Sub-task

1.05 Interprets 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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

- 1.05.01 knowledge of work order formats
- 1.05.02 knowledge of industry terminology
- 1.05.03 knowledge of paint refinish procedures
- 1.05.04 knowledge of material required
- 1.05.05 ability to follow work order

Task 2 Uses tools and equipment.

Related Components: Not applicable.

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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

2.01.01 knowledge of types of hand tools such as sanding, cutting, scraping, and trim and accessory removal tools

2.01.02 knowledge of limitations of use

2.01.03 ability to maintain tools

2.01.04 ability to store tools

2.01.05 ability to recognize unsafe, worn, broken and defective 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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

2.02.01 knowledge of types of power tools such as pneumatic and electric

2.02.02 knowledge of operating procedures

2.02.03 knowledge of limitations of use

2.02.04 ability to maintain tools

2.02.05 ability to store tools

2.02.06 ability to recognize unsafe, worn, broken and defective tools

Sub-task

2.03 Uses computers.

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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

- 2.03.01 knowledge of computer hardware and software applications such as spectrophotometer, paint mixing, job tracking and data retrieval
- 2.03.02 ability to retrieve information such as colour formula, product information, MSDS and VOC information
- 2.03.03 ability to use applicable industry software

Sub-task

2.04 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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

- 2.04.01 knowledge of types of measuring equipment such as scales, proportional sticks and containers
- 2.04.02 knowledge of types of scales such as digital and computerized
- 2.04.03 knowledge of viscosity
- 2.04.04 ability to interpret technical manuals
- 2.04.05 ability to operate computers and related software
- 2.04.06 ability to perform basic calculations
- 2.04.07 ability to set up measuring system
- 2.04.08 ability to maintain measuring system

Sub-task

2.05 Uses personal protective equipment.

Supporting Knowledge & Abilities

<u>NL</u> NV	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>QC</u> yes	<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> NV	<u>NU</u> NV
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- 2.05.01 knowledge of types of personal protective equipment such as hearing, eye, skin and respiratory protection
- 2.05.02 knowledge of personal protective equipment operation
- 2.05.03 knowledge of workplace safety and health regulations
- 2.05.04 ability to inspect and maintain personal protective equipment
- 2.05.05 ability to store personal protective equipment
- 2.05.06 ability to recognize worksite hazards

Task 3 Organizes work.

Related Components: Vehicle, WHMIS documents, abrasives, solvents, cleaners, masking materials, paints.

Tools and Equipment: Safety and first aid equipment, light source, communication equipment, computer.

Sub-task

3.01 Organizes material.

Supporting Knowledge & Abilities

<u>NL</u> NV	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>QC</u> yes	<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> NV	<u>NU</u> NV
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- 3.01.01 knowledge of types of materials such as abrasives, cleaners and paints
- 3.01.02 knowledge of ordering procedures
- 3.01.03 ability to determine material required

3.01.04 ability to store and inventory material

3.01.05 ability to dispose of waste material

Sub-task

3.02 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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

3.02.01 knowledge of types of communication methods such as oral and written

3.02.02 ability to use conflict resolution techniques

3.02.03 ability to explain technical information in layperson's terms

3.02.04 ability to communicate with other related professionals such as tradespeople and appraisers

3.02.05 ability to mentor apprentices

3.02.06 ability to operate communication equipment such as cellular phones, two-way radios and computers

Sub-task

3.03 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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

3.03.01 knowledge of locations of WHMIS and MSDS

3.03.02 knowledge of personal protective equipment

3.03.03 knowledge of workers' rights and responsibilities

- 3.03.04 knowledge of location of safety equipment such as eye wash station, fire extinguishers, spill kits and first aid kit
- 3.03.05 knowledge of emergency procedures
- 3.03.06 knowledge of disposal and recycling procedures
- 3.03.07 ability to recognize fire and explosive hazards
- 3.03.08 ability to recognize personal injury hazards
- 3.03.09 ability to identify potential hazards
- 3.03.10 ability to perform basic first aid
- 3.03.11 ability to operate ventilation systems

Sub-task

3.04 Performs inspections.

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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

- 3.04.01 ability to verify tasks listed in repair estimate
- 3.04.02 ability to perform sensory inspection at appropriate times of repair
- 3.04.03 ability to identify paint defects such as runs, dust nibs and mottling

BLOCK B

VEHICLE PREPARATION

Trends: Increased use of plastics and aluminium affecting finish coat process and preparation. New processes include UV and infrared curing techniques. Products being introduced include low VOC products, finer grit paper, water-borne materials and faster-drying materials.

Task 4 Performs initial preparation.

Related Components: Trim, accessories, fasteners, cleaners, WHMIS documents.

Tools and Equipment: Safety and first aid equipment, standard tool kit.

Sub-task

4.01 Cleans vehicle.

Supporting Knowledge & Abilities

<u>NL</u> NV	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>QC</u> yes	<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> NV	<u>NU</u> NV
					4.01.01		knowledge of types of cleaners such as soap, water and degreaser					
					4.01.02		knowledge of cleaning techniques					
					4.01.03		knowledge of types of contaminants					
					4.01.04		ability to select appropriate cleaner for various substrates such as metals and plastics					
					4.01.05		ability to select appropriate cleaner to remove various contaminants					
					4.01.06		ability to dispose of cleaning materials					

Sub-task

4.02 Removes trim and accessories.

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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

- 4.02.01 knowledge of types of trim and accessories and their method of attachment
- 4.02.02 knowledge of types of fasteners
- 4.02.03 knowledge of effect of temperature on removal of components
- 4.02.04 knowledge of basic vehicle design
- 4.02.05 ability to select appropriate tools
- 4.02.06 ability to identify composition of trim and accessories such as plastic, glass and metal
- 4.02.07 ability to handle and store removed trim and accessories

Task 5 Prepares surface.

Related Components: Exterior vehicle surface and components, stripping chemicals, masking materials, sandpaper, WHMIS documents.

Tools and Equipment: Safety and first aid equipment, pneumatic sanders, grinder, media blasting equipment, air equipment, file, heat gun, masking cart, sanding blocks.

Sub-task

5.01 Repairs imperfections.

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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

- 5.01.01 knowledge of types of imperfections such as door dings, rock chips and scratches

5.01.02	knowledge of repair techniques such as feather edging, stripping and media blasting
5.01.03	ability to identify problems with existing finish
5.01.04	ability to identify stripping methods such as chemical and mechanical
5.01.05	ability to identify substrate such as metal, plastic and composite
5.01.06	ability to identify extent of repair

Sub-task

5.02 Masks 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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

5.02.01	knowledge of types of masking materials such as paper, tape, foam, plastic sheeting and spray mask
5.02.02	ability to select size of tape and masking materials best suited to the repair
5.02.03	ability to apply spray mask
5.02.04	ability to select and apply masking techniques such as edge, reverse, inners and back mask

Sub-task

5.03 Strips 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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

5.03.01	knowledge of types of stripping methods such as chemical, mechanical and media blasting
5.03.02	knowledge of types of media blasting such as sand, soda and plastic beads

5.03.03	knowledge of personal protective equipment
5.03.04	ability to identify substrate material
5.03.05	ability to prepare surrounding area prior to stripping
5.03.06	ability to select cleaning procedure for use after stripping
5.03.07	ability to handle, store and dispose of stripping material

Sub-task

5.04 Sands 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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

5.04.01	knowledge of types of abrasives
5.04.02	knowledge of sanding techniques such as block, back and final sanding
5.04.03	knowledge of adhesion capability of materials to be applied
5.04.04	ability to select appropriate grit according to substrate, material being used and repair technique
5.04.05	ability to select and perform sanding methods such as wet, dry, machine and hand

Task 6 Applies repair materials.

Related Components: Vehicle exterior surface, fillers, primers, primer surfacers, adhesion promoters, flex additives, sandpaper, sanding paste, chip guard materials, masking materials, WHMIS documents.

Tools and Equipment: Safety and first aid equipment, schutz gun, sanding blocks, scratch pads, sponge blocks, dust extraction systems, pneumatic sanders, plastic spreaders.

Sub-task

6.01 Applies fillers.

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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

- 6.01.01 knowledge of types of fillers such as polyester and glazing putties
- 6.01.02 knowledge of types of substrates such as plastic, composites and metals
- 6.01.03 knowledge of product application techniques
- 6.01.04 knowledge of product curing times
- 6.01.05 knowledge of product working time
- 6.01.06 knowledge of role of environmental conditions on working and curing times
- 6.01.07 knowledge of limitation of use of fillers
- 6.01.08 ability to select repair material for substrate
- 6.01.09 ability to prepare surface prior to application
- 6.01.10 ability to mix fillers as per manufacturers' specifications
- 6.01.11 ability to estimate quantity of filler

Sub-task**6.02 Applies primer and primer surfacers.****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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

- 6.02.01 knowledge of types of primer surfacers such as two part primer surfacers, tintable and UV cure primer
- 6.02.02 knowledge of application techniques such as spray gun, roll-on, spreadable and aerosol
- 6.02.03 knowledge of types of primer such as etch and epoxy
- 6.02.04 knowledge of types of adhesion promoters
- 6.02.05 knowledge of limitations of primers and primer surfacers
- 6.02.06 knowledge of flash-off times, cure times, induction times and pot life
- 6.02.07 ability to select and mix appropriate primer and primer surfacer for substrate and topcoat
- 6.02.08 ability to use flex additives for flexible substrate
- 6.02.09 ability to handle, store and dispose of primer and primer surfacers

Sub-task**6.03 Performs final sanding.****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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

- 6.03.01 knowledge of sandpaper grit
- 6.03.02 knowledge of guide coat usage
- 6.03.03 knowledge of uses of sanding paste

- 6.03.04 knowledge of sanding methods such as wet, dry, machine and hand
- 6.03.05 knowledge of sanding materials such as dry and wet sandpaper and scratch pads
- 6.03.06 ability to select grit for topcoat to be applied
- 6.03.07 ability to prepare area for blending

Sub-task

6.04 Applies chip guard.

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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

- 6.04.01 knowledge of types of chip guard materials such as water-borne and acrylic
- 6.04.02 knowledge of uses of paintable and non-paintable chip guard
- 6.04.03 knowledge of appropriate drying timeframes for sanding
- 6.04.04 knowledge of limitations of use of chip guard
- 6.04.05 ability to use schutz gun
- 6.04.06 ability to prepare substrate
- 6.04.07 ability to match texture on existing vehicle
- 6.04.08 ability to mask surrounding area

BLOCK C

REFINISHING

Trends: *The relationship between global environment issues and consumer demand has been a catalyst for innovative product development. These technological advancements provide a safer, more efficient working environment.*

Task 7 Prepares equipment.

Related Components: Refinish products, lubricants, WHMIS documents.

Tools and Equipment: Safety and first aid equipment, standard tool kit, refinishing equipment, regulators, manometer, thermometer, stands, hangers.

Sub-task

7.01 Performs spray gun 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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

- 7.01.01 knowledge of types of refinish products
- 7.01.02 knowledge of types of refinish equipment
- 7.01.03 knowledge of air pressure and air volume and their effects
- 7.01.04 knowledge of paint gun components
- 7.01.05 knowledge of pneumatic components such as regulators, air transformers and separators
- 7.01.06 knowledge of product viscosity
- 7.01.07 knowledge of lubricants
- 7.01.08 ability to select equipment for application
- 7.01.09 ability to perform setup procedures as per manufacturers' specifications
- 7.01.10 ability to troubleshoot equipment problems

Sub-task**7.02 Prepares spray booth.****Supporting Knowledge & Abilities**

<u>NL</u> NV	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>QC</u> yes	<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> NV	<u>NU</u> NV	
					7.02.01								knowledge of booth types and construction
					7.02.02								knowledge of operating temperatures and their effect on topcoat quality
					7.02.03								knowledge of effect of positive and negative booth pressures
					7.02.04								ability to adjust air makeup unit
					7.02.05								ability to ensure spray booth is clean and dust-free
					7.02.06								ability to set up booth based on job requirements
					7.02.07								ability to utilize booth space
					7.02.08								ability to adjust air flow in spray booth

Task 8 Prepares refinishing materials.

Related Components: Vehicle, paint, solvents, activators, WHMIS documents.

Tools and Equipment: Safety and first aid equipment, mixing scales, computers and product-specific software, microfiche reader, paint gun, mixing sticks, measuring sticks, mixing cups, paint strainers, spray out cards, colour corrective bulbs, variant cards, spectrophotometer, paint shakers.

Sub-task**8.01 Mixes paint.****Supporting Knowledge & Abilities**

<u>NL</u> NV	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>QC</u> yes	<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> NV	<u>NU</u> NV	
					8.01.01								knowledge of scale and ratios
					8.01.02								knowledge of viscosity scales

8.01.03	knowledge of low and high strength colours
8.01.04	knowledge of safety procedures
8.01.05	ability to use paint mixing equipment such as agitators and scales
8.01.06	ability to select solvents and activators according to ambient conditions (humidity/temperature) and job size
8.01.07	ability to determine quantity of paint required for the job
8.01.08	ability to mix paint according to Original Equipment Manufacturer (OEM) paint code

Sub-task

8.02 Performs colour matching.

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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

8.02.01	knowledge of colour theory such as chroma, hue and value
8.02.02	knowledge of metamerism (role of light in colour perception)
8.02.03	knowledge of face, pitch and flash of a colour
8.02.04	knowledge of role of air pressure, temperature and solvent selections on colour matching
8.02.05	knowledge of paint components such as pearls, mica and metal flakes
8.02.06	knowledge of three-stage technology
8.02.07	knowledge of paint code variances
8.02.08	knowledge of methods to obtain formulas
8.02.09	ability to use variant cards, spectrophotometer and technical support to obtain formulas
8.02.10	ability to mix colour with an intermix system

8.02.11	ability to perform test panels
8.02.12	ability to adjust paint to match vehicle colour
8.02.13	ability to use spray technique to alter the mixed colour
8.02.14	ability to set up gun

Task 9 Applies refinishing materials.

Related Components: Vehicle, sealers, additives, refinishing materials, reducers, activators, accelerators, WHMIS documents.

Tools and Equipment: Safety and first aid equipment, standard tool kit, refinishing equipment, air compressor, tack cloths, moisture trap, regulators, anti-static devices, thermometer, stands, step ladders, hangers.

Sub-task

9.01 Applies sealers.

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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

9.01.01	knowledge of types of sealers such as tintable, non-tintable and plastic
9.01.02	knowledge of types of seam sealers such as brush-on, ribbon and sprayable
9.01.03	knowledge of flash-off times
9.01.04	knowledge of types of additives
9.01.05	knowledge of the role of sealers in the refinishing process
9.01.06	ability to select sealers according to compatibility with substrate materials
9.01.07	ability to spray sealer in an even and consistent pattern
9.01.08	ability to use personal protective equipment such as personal fresh air system, gloves and paint suits

Sub-task**9.02 Applies topcoat materials.****Supporting Knowledge & Abilities**

<u>NL</u> NV	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>QC</u> yes	<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> NV	<u>NU</u> NV
					9.02.01		knowledge of types of topcoats such as enamels, water-borne, acrylic enamel, urethanes and basecoats					
					9.02.02		knowledge of types of additives and their applications					
					9.02.03		knowledge of spray gun techniques and setups					
					9.02.04		knowledge of types of substrates					
					9.02.05		knowledge of reducers, activators and accelerators and their application					
					9.02.06		knowledge of forced curing					
					9.02.07		knowledge of drying times of materials for two-toning and denibbing					
					9.02.08		knowledge of contaminants					
					9.02.09		knowledge of blending techniques such as drop coat, fan coat and orientation coat					
					9.02.10		ability to diagnose and correct paint faults such as fish-eyes, dry spray, tiger stripes and mottling					
					9.02.11		ability to use personal protective equipment such as respirators, gloves and paint suits					
					9.02.12		ability to use cleaning materials such as tack cloths and low-static solvents					
					9.02.13		ability to pre-wash vehicle					
					9.02.14		ability to determine coverage of topcoat materials					
					9.02.15		ability to use computers and programs					

Task 10 Maintains refinishing equipment.

Related Components: Spray booth filters, cleaning products, WHMIS documents.

Tools and Equipment: Safety and first aid equipment, standard tool kit, refinishing equipment, cleaning brushes and equipment, pressure washers, automatic gun washing system, air compressor, blow gun, brooms, floor squeegees, solvent recyclers.

Sub-task

10.01 Maintains spray booth.

Supporting Knowledge & Abilities

<u>NL</u> NV	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>QC</u> yes	<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> NV	<u>NU</u> NV
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- 10.01.01 knowledge of maintenance procedures such as changing filters, changing lights and cleaning glass
- 10.01.02 knowledge of types of booth coatings
- 10.01.03 knowledge of spray booth design
- 10.01.04 knowledge of different lighting types
- 10.01.05 knowledge of personal protective equipment
- 10.01.06 ability to apply booth coatings
- 10.01.07 ability to follow regular booth maintenance schedule
- 10.01.08 ability to troubleshoot problems
- 10.01.09 ability to apply safe working practices

Sub-task

10.02 Maintains spray equipment.

Supporting Knowledge & Abilities

<u>NL</u> NV	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>QC</u> yes	<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> NV	<u>NU</u> NV
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- 10.02.01 knowledge of types of spray equipment such as pressure pot, conventional and HVLP

- 10.02.02 knowledge of spray gun components such as air caps, packings, fluid needles and fluid tips
- 10.02.03 knowledge of cleaning products and equipment
- 10.02.04 knowledge of personal protective equipment
- 10.02.05 knowledge of spray equipment cleaning procedures
- 10.02.06 knowledge of contaminants such as silicone and their possible negative effect
- 10.02.07 knowledge of spray equipment storage procedures
- 10.02.08 ability to troubleshoot spray faults such as fluttering and inconsistent spray patterns
- 10.02.09 ability to apply safe working practices
- 10.02.10 ability to identify contaminants
- 10.02.11 ability to replace worn or damaged parts
- 10.02.12 ability to service spray gun
- 10.02.13 ability to maintain compressors, moisture traps and air makeup system

BLOCK D
PRE-DELIVERY

Trends: Increased use of colour-coordinated trim, accessories and computer-cut graphics. Increasing customer expectations, especially vehicle cleanliness. Many of the pre-delivery tasks are performed by designated detailers who communicate with painters. More sophisticated polishing techniques and products.

Task 11 Carries out quality assurance check.

Related Components: Vehicle, WHMIS documents, sandpaper, polish, masking materials.

Tools and Equipment: Safety and first aid equipment, razor blade, razor blade holder, sanding block, polisher, run-nib files.

Sub-task

11.01 Removes surface imperfections.

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>
NV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

- 11.01.01 knowledge of surface imperfections such as runs, sags, dust nibs, dry spray and orange peel
- 11.01.02 knowledge of types of topcoat and their limitations of repair
- 11.01.03 knowledge of types and grits of polish
- 11.01.04 knowledge of process to remove imperfections
- 11.01.05 ability to identify imperfections
- 11.01.06 ability to select technique for removal
- 11.01.07 ability to determine cure times of finish prior to topcoat repair
- 11.01.08 ability to restore lustre of finish

Sub-task

11.02 Removes masking materials. Supporting Knowledge & Abilities

<u>NL</u> NV	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>QC</u> yes	<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> NV	<u>NU</u> NV
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11.02.01 knowledge of types of masking materials

11.02.02 knowledge of application techniques

11.02.03 knowledge of removal techniques

11.02.04 knowledge of when to remove masking materials

11.02.05 knowledge of contaminants such as silicone and their possible negative effect

11.02.06 ability to remove masking materials without damaging refinished surface

Task 12 Performs detailing.

Related Components: Exterior trim and accessories, decals, striping, interior components, cleaners, WHMIS documents.

Tools and Equipment: Safety and first aid equipment, standard tool kit, detailing and cleaning equipment.

Sub-task

12.01 Installs trim and accessories. Supporting Knowledge & Abilities

<u>NL</u> NV	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>QC</u> yes	<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> NV	<u>NU</u> NV
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12.01.01 knowledge of types of trim and accessories

12.01.02 knowledge of types of fasteners

12.01.03 knowledge of basic vehicle construction

12.01.04 ability to install trim in proper location and sequence

- 12.01.05 ability to use adhesives and two-sided tape
- 12.01.06 ability to clean trim and accessories prior to applications
- 12.01.07 ability to install components and accessories without damaging vehicle finish

Sub-task

12.02 Applies decals and striping.

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>
NV	yes	no	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

- 12.02.01 knowledge of types of decals and striping such as vinyl graphics and name plates
- 12.02.02 knowledge of installation methods
- 12.02.03 ability to clean surface prior to application
- 12.02.04 ability to use heating equipment
- 12.02.05 ability to use detergent, water and squeegee to install decals and vinyl graphics
- 12.02.06 ability to remove air bubbles
- 12.02.07 ability to install decals and striping in proper location
- 12.02.08 ability to install decals and striping without damaging refinished surface, decals and striping

Sub-task

12.03 Applies anti-corrosive material.

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>
NV	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

- 12.03.01 knowledge of types of anti-corrosive materials such as undercoating and rustproofing

- 12.03.02 knowledge of types of application equipment such as aerosol and pressure pot
- 12.03.03 ability to access hidden areas for application of anti-corrosive material
- 12.03.04 ability to apply material to repaired locations
- 12.03.05 ability to protect surrounding areas

Sub-task

12.04 Performs final 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>
NV	yes	no	yes	yes	yes	yes	yes	yes	yes	yes	NV	NV

- 12.04.01 knowledge of new paint care
- 12.04.02 knowledge of vehicle's pre-existing condition
- 12.04.03 knowledge of industrial quality standards
- 12.04.04 ability to remove spray mask
- 12.04.05 ability to remove overspray
- 12.04.06 ability to clean vehicle such as vacuuming, wiping interior and cleaning glass
- 12.04.07 ability to check operation of electronic components and lights

APPENDICES

TOOLS AND EQUIPMENT

Standard Tool Kit

adhesive remover (eraser)	reveal moulding tool
air powered tools	rubber squeegee
air pressure gauge	sanding blocks
blow gun	sanding boards
clip removal tool	scratch pad
decal removal tool	screwdrivers
drill	socket wrench
dual action sander	sockets
file	sponge blocks
grinder	spray bottles
hand cutting tools	stop watch
hand tools	tape measure
heat gun	tire chuck
plastic spreaders	trim removing tools
putty board	trouble light
putty knife	tweezers
ratchet socket	upholstery tools

Safety and First Aid Equipment

disposal containers	goggles
dust extraction equipment	invisible glove
dust mask	paint suit
ear protectors	protective clothing
explosion proof room	respirator (air purifying)
explosion proof wiring	respirator (air supplied)
eye wash station	safety eye wear
fire extinguishers	safety footwear
first aid kit	spill kits
gloves (work & rubber)	

Refinishing Equipment

air brush	computer and software
anti-static devices	curing lamps
automatic gun washing system	film thickness gauge (wet and dry)
blow gun	gravel guard gun
colour chips	ground cable
colour corrective bulbs	gun washer

Refinishing Equipment (continued)

heat lamps	spectrophotometer
liquid mask	spray booth
measuring sticks	spray gun (electrostatic)
microfiche reader	spray gun (gravity feed)
mixing cups	spray gun (HVLP)
mixing machine	spray gun (LVLP)
mixing scales	spray gun (pressure pot system)
mixing sticks	spray gun (suction feed)
oilless compressor	spray out cards
paint shaker	thermometer
paint strainers	UV lamps
pressure washers	variant cards
schutz gun	viscosity cups
solvent recycler	

Detailing and Cleaning Equipment

abrasive pad	moulding cutter
anti-corrosive applicator	polisher
buffer pad	razor blade
buffer/polisher	razor blade holder
cleaning brush	run-nib file
cleaning clothes	spray bottle
cleaning equipment	stripe cutter
cleaning solutions	tack cloths
interior cleaner	vacuum cleaner
magnifying glass	

Shop Equipment

air compressor	media blasting equipment
air dryer	moisture trap
air hoses	moulding remover
air makeup system	parts and bumper stands
air transformer	plastic rivet gun
axle stand	pneumatic sanders
brooms	pressure washer
caulking gun (manual/air)	regulators
decal eraser	solvent recycler
files	spreaders
floor jack	stands
floor squeegees	step ladders
hangers	telephone
hoist	two-way radio
manometer	windshield removing tools
masking cart	wire brush

GLOSSARY

abrasive	a substance used to wear away a surface by friction.
adhesion	the force that makes two materials stick together. When paint bonds with paint, it is called intercoat adhesion. Epoxies have great adhesion to most surfaces.
back mask	masking of an opening of vehicle from the inside.
basecoat/clearcoat	a high-lustre, two-layer paint system, which, unlike conventional lacquer or enamel, has the pigment in the basecoat with a clearcoat as the finish coat to protect the basecoat and produce a deep high-lustre appearance and provide UV protection.
blending	gradual transition from the applied coat to the original coat.
Block A Occupational Skills	repetitive general skills for many tasks performed by an automotive painter.
Block B Vehicle Preparation	knowledge and skills required by an automotive painter to prepare a vehicle for refinishing.
Block C Refinishing	knowledge and skills required by an automotive painter to apply various types of topcoat to a vehicle.
Block D Pre-Delivery	knowledge and skills required by an automotive painter to prepare the vehicle for delivery.
chroma	the strength or intensity of a colour.
colour	the visual appearance of a material: red, blue, green, and so on. Colours are seen differently by different people.
compatibility	the ability of materials to be used together without separation or reaction.
contaminants	foreign substances on the surface to be painted (or in the paint) that would adversely affect the finish.
coverage	the area a given amount of paint will cover.
cure	the process of drying or hardening of a paint film or to harden a coating film by applied heat or catalyst.
degreaser	combination of solvents for the purpose of removing grease and oil from the surface in preparation for painting.

dry spray	an imperfect coat, usually caused by spraying too far from the surface being painted or on a too hot surface.
drying time	the expected time for a paint film to harden. Varying by product, temperature and atmospheric conditions, drying time is usually expressed as dust-free and completely dry, or dry for recoat.
epoxy	a class of resins characterized by good chemical resistance. A film made from epoxy resins is extremely durable and solvent resistant. Pure epoxies require strong solvents and a catalyst.
filler	a heavy-bodied plastic material that cures very hard and is used to fill small dents in metal.
film thickness	the thickness of a coating measured in mils.
finish	the topcoat that protects the substrate, usually containing a pigment.
fish-eyes	blemishes in the finish coat usually of a circular and opalescent character.
flash-off time	the first stage of drying where some of the solvents evaporate.
grit	a measure of the size of particles on sandpaper or discs.
guide coat	applied coat of contrasting colour to identify surface imperfections when sanding.
hue	the name of a colour. The property of a colour by which it can be distinguished. Red, blue, yellow, etc.
HVLP	High Volume Low Pressure
lustre	the appearance of depth as obtained by multiple coats.
masking	using tape and paper to protect an area that will not be painted.
media blasting	removal of topcoat using various materials such as sand, soda and plastic beads.
metal flake	most generally, aluminium flakes that have iridescent and light reflective properties.
metamerism	a term used to describe a colour shift when viewed under different light sources.
mottling	irregular grouping of metallic particles in a topcoat.
OEM	Original Equipment Manufacturer

orange peel	a film that has the physical appearance of an orange peel, caused by improper spray application.
overspray	paint that falls on the area next to the one being painted.
primer	an undercoat applied to bare metal to promote adhesion of the topcoat to substrate.
primer surfacer	a high-solids primer that fills small imperfections in the substrate and usually must be sanded.
putty	a material made for filling small holes or sand scratches.
respirator	a device worn over the mouth and nose that delivers breathable air.
runs	usually caused by improper consistency of paint or applying too heavily.
sags	state of applied paint before running.
sealer	a coating which improves adhesion and colour uniformity of the topcoat.
solids	the pigment and non-volatile vehicle components of paint. Material which remains on surface.
solvent	the component of a solution which dissolves other components.
specifications	written instructions on details of paint applications, types of products to be used, areas to be painted and painting procedure.
spectrophotometer	an electronic device used for recording and measuring colour.
spray gun	a tool powered by air pressure that atomizes liquids.
substrate	the surface that is to be finished. It can be anything from an old finish or primer to an unpainted surface.
tack cloth	a cheesecloth that has been treated to make it tacky. Used to pick up dust and lint from the surface to be painted.
three-stage (tri-colour)	paint application that consists of distinct paint layers that produces a pearlescent appearance: a basecoat, a tinted midcoat and clearcoat.
tint	to add colour to another colour or to white.
topcoat	the last or final colour clearcoat.
two-stage	consists of two distinct layers of paint: basecoat and clearcoat.

undercoat	a first coat: primer, primer surfacers or sealer.
value	the lightness/darkness of a colour.
vehicle identification number (VIN)	the number assigned to each vehicle by its manufacturer, primarily for registration and identification purposes.
viscosity	consistency or body of a liquid.
viscosity cup	a device to measure the viscosity of a liquid by determining the time it takes to flow through the opening of the cup.
volatile	capable of evaporating easily.
water-borne paint	an OEM paint process in which a special de-ionized, purified water is substituted as the solvent carrier instead of enamel reducer.

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

													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>	15%
	NV	20	15	21	20	25	15	11	10	20	20	NV	NV	

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>	26%
	NV	35	30	24	30	40	35	25	10	30	40	NV	NV	

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>	48%
	NV	50	50	46	30	30	35	48	70	35	40	NV	NV	

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>	26%
	NV	15	20	30	40	30	30	27	20	35	20	NV	NV	

BLOCK B VEHICLE PREPARATION

													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>	39%
	NV	35	35	32	35	25	40	40	40	40	35	NV	NV	

Task 4 Performs initial preparation.

%	<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>	24%
	NV	30	35	30	25	20	20	21	33	20	20	NV	NV	

Task 5 Prepares surface.

%	<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>	38%
	NV	35	50	36	40	50	40	44	34	45	30	NV	NV	

Task 6 Applies repair 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>	38%
	NV	35	15	34	35	30	40	35	33	35	50	NV	NV	

BLOCK C REFINISHING

													National Average	
%	<u>NL</u> NV	<u>NS</u> 35	<u>PE</u> 35	<u>NB</u> 32	<u>QC</u> 30	<u>ON</u> 25	<u>MB</u> 35	<u>SK</u> 37	<u>AB</u> 40	<u>BC</u> 35	<u>NT</u> 35	<u>YT</u> NV	<u>NU</u> NV	37%

Task 7 Prepares equipment.

%	<u>NL</u> NV	<u>NS</u> 10	<u>PE</u> 20	<u>NB</u> 20	<u>QC</u> 25	<u>ON</u> 25	<u>MB</u> 15	<u>SK</u> 13	<u>AB</u> 10	<u>BC</u> 10	<u>NT</u> 20	<u>YT</u> NV	<u>NU</u> NV	13%
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Task 8 Prepares refinishing materials.

%	<u>NL</u> NV	<u>NS</u> 35	<u>PE</u> 20	<u>NB</u> 27	<u>QC</u> 30	<u>ON</u> 25	<u>MB</u> 35	<u>SK</u> 33	<u>AB</u> 40	<u>BC</u> 45	<u>NT</u> 20	<u>YT</u> NV	<u>NU</u> NV	34%
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Task 9 Applies refinishing materials.

%	<u>NL</u> NV	<u>NS</u> 45	<u>PE</u> 30	<u>NB</u> 33	<u>QC</u> 30	<u>ON</u> 30	<u>MB</u> 35	<u>SK</u> 38	<u>AB</u> 40	<u>BC</u> 40	<u>NT</u> 40	<u>YT</u> NV	<u>NU</u> NV	40%
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Task 10 Maintains refinishing equipment.

%	<u>NL</u> NV	<u>NS</u> 10	<u>PE</u> 30	<u>NB</u> 20	<u>QC</u> 15	<u>ON</u> 20	<u>MB</u> 15	<u>SK</u> 16	<u>AB</u> 10	<u>BC</u> 5	<u>NT</u> 20	<u>YT</u> NV	<u>NU</u> NV	13%
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BLOCK D PRE-DELIVERY

													National Average	
%	<u>NL</u> NV	<u>NS</u> 10	<u>PE</u> 15	<u>NB</u> 15	<u>QC</u> 15	<u>ON</u> 25	<u>MB</u> 10	<u>SK</u> 12	<u>AB</u> 10	<u>BC</u> 5	<u>NT</u> 10	<u>YT</u> NV	<u>NU</u> NV	9%

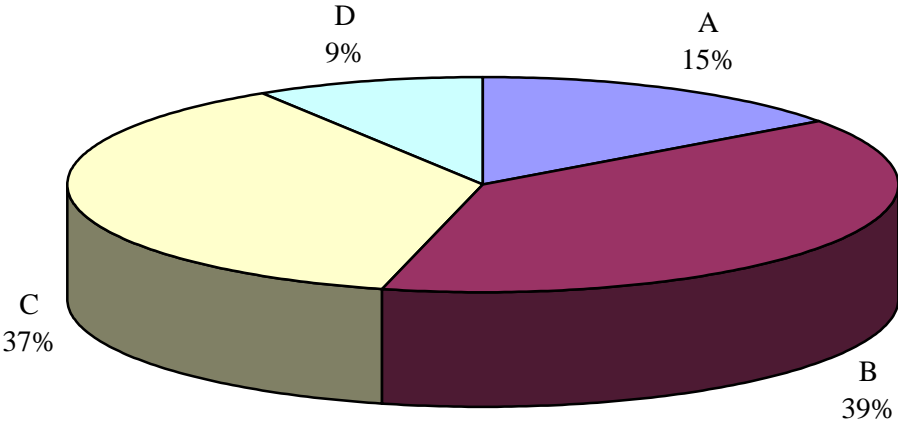
Task 11 Carries out quality assurance check.

%	<u>NL</u> NV	<u>NS</u> 40	<u>PE</u> 50	<u>NB</u> 46	<u>QC</u> 50	<u>ON</u> 55	<u>MB</u> 45	<u>SK</u> 35	<u>AB</u> 50	<u>BC</u> 25	<u>NT</u> 30	<u>YT</u> NV	<u>NU</u> NV	35%
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Task 12 Performs detailing.

%	<u>NL</u> NV	<u>NS</u> 60	<u>PE</u> 50	<u>NB</u> 54	<u>QC</u> 50	<u>ON</u> 45	<u>MB</u> 55	<u>SK</u> 65	<u>AB</u> 50	<u>BC</u> 75	<u>NT</u> 70	<u>YT</u> NV	<u>NU</u> NV	65%
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PIE CHART*



TITLES OF BLOCKS

Block A	Occupational Skills	Block C	Refinishing
Block B	Vehicle Preparation	Block D	Pre-Delivery

* 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.

BLOCKS	TASKS	← SUB-TASKS →				
A OCCUPATIONAL SKILLS	1. Uses documentation.	1.01 Interprets vehicle information.	1.02 Interprets technical manuals and bulletins.	1.03 Interprets safety and environmental regulations.	1.04 Contributes to development of repair estimate.	1.05 Interprets work orders.
	2. Uses tools and equipment.	2.01 Uses hand tools.	2.02 Uses power tools.	2.03 Uses computers.	2.04 Uses measuring equipment.	2.05 Uses personal protective equipment.
	3. Organizes work.	3.01 Organizes material.	3.02 Communicates with others.	3.03 Maintains safe work environment.	3.04 Performs inspections.	
B VEHICLE PREPARATION	4. Performs initial preparation.	4.01 Cleans vehicle.	4.02 Removes trim and accessories.			
	5. Prepares surface.	5.01 Repairs imperfections.	5.02 Masks vehicle.	5.03 Strips surface.	5.04 Sands surface.	
	6. Applies repair materials.	6.01 Applies fillers.	6.02 Applies primer and primer surfacers.	6.03 Performs final sanding.	6.04 Applies chip guard.	
C REFINISHING	7. Prepares equipment.	7.01 Performs spray gun setup.	7.02 Prepares spray booth.			
	8. Prepares refinishing materials.	8.01 Mixes paint.	8.02 Performs colour matching.			

AUTOMOTIVE PAINTER (2005)

BLOCKS	TASKS	← SUB-TASKS →			
	9. Applies refinishing materials.	9.01 Applies sealers.	9.02 Applies topcoat materials.		
	10. Maintains refinishing equipment.	10.01 Maintains spray booth.	10.02 Maintains spray equipment.		
D PRE-DELIVERY	11. Carries out quality assurance check.	11.01 Removes surface imperfections.	11.02 Removes masking materials.		
	12. Performs detailing.	12.01 Installs trim and accessories.	12.02 Applies decals and striping.	12.03 Applies anti-corrosive material.	12.04 Performs final check.