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Red Seal Occupational Standard

Automotive Refinishing Technician

INTERPROVINCIAL STANDARD
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RED SEAL OCCUPATIONAL STANDARD

AUTOMOTIVE REFINISHING TECHNICIAN

Title: Automotive Refinishing Technician

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FOREWORD

The Canadian Council of Directors of Apprenticeship (CCDA) recognizes this Red Seal Occupational Standard (RSOS) as the Red Seal standard for the Automotive Refinishing Technician trade.

Background

The first National Conference on Apprenticeship in Trades and Industries, held in Ottawa in 1952, recommended that the federal government be requested to cooperate with provincial and territorial apprenticeship committees and officials in preparing analyses of a number of skilled occupations. Employment and Social Development Canada (ESDC) sponsors the Red Seal Program, which, under the guidance of the CCDA, develops a national occupational standard for each of the Red Seal trades.

Standards have the following objectives:

- to describe and group the tasks performed by skilled workers;
- to identify which tasks are performed in every province and territory;
- to develop instruments for use in the preparation of Interprovincial Red Seal Examinations and assessment tools for apprenticeship and certification authorities;
- to develop common tools for apprenticeship on-the-job and technical training in Canada;
- to facilitate the mobility of apprentices and skilled workers in Canada;
- to supply employers, employees, associations, industries, training institutions and governments with occupational standards.

Any questions, comments, or suggestions for changes, corrections, or revisions to this standard or any of its related products may be forwarded to:

Trades and Apprenticeship Division
Apprenticeship and Sectoral Initiatives Directorate
Employment and Social Development Canada
140 Promenade du Portage, Phase IV, 6th Floor
Gatineau, Quebec K1A 0J9
Email: redseal-sceaurouge@hrsdc-rhdcc.gc.ca

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This standard was prepared by the Apprenticeship and Sectoral Initiatives Directorate of ESDC. The coordinating, facilitating and processing of this standard were undertaken by employees of the standards development team of the Trades and Apprenticeship Division and of British Columbia, the host jurisdiction for this trade.

STRUCTURE OF THE OCCUPATIONAL STANDARD

This standard contains the following sections:

Description of the Automotive Refinishing Technician trade: an overview of the trade's duties, work environment, job requirements, similar occupations and career progression

Methodology: an overview of the process for development, review, validation and weighting of the standard

Trends in the Automotive Refinishing Technician trade: some of the trends identified by industry as being the most important for workers in this trade

Essential Skills Summary: an overview of how each of the 9 essential skills is applied in this trade

Industry Expected Performance: description of the expectations regarding the level of performance of the tasks, including information related to specific codes, regulations and standards that must be observed

Roles and Opportunities for Skilled Trades in a Sustainable Future: an overarching description of how in the context of climate change, skilled trades play a large role in implementing solutions and adjusting to changes in the world. In addition to highlighting the importance of this awareness, the standard may also contain more details on activities, skills and knowledge elements that are specific to the trade

Language Requirements: description of the language requirements for working and studying in this trade in Canada

Pie Chart of Red Seal Examination Weightings: a graph which depicts the national percentages of exam questions assigned to the major work activities

Task Matrix: a chart which outlines graphically the major work activities, tasks and sub-tasks of this standard

Major Work Activity (MWA): the largest division within the standard that is comprised of a distinct set of trade activities

Task: distinct actions that describe the activities within a major work activity

Task Descriptor: a general description of the task

Sub-task: distinct actions that describe the activities within a task

Essential Skills: The most relevant essential skills for this sub-task

Skills:

Performance Criteria: description of the activities that are done as the sub-task is performed

Evidence of Attainment: proof that the activities of the sub-task meet the expected performance of a tradesperson who has reached journeyperson level

Knowledge:

Learning Outcomes: describes what should be learned relating to a sub-task while participating in technical or in-school training

Learning Objectives: topics to be covered during technical or in-school training in order to meet the learning outcomes for the sub-task

Range Variables: elements that provide a more in-depth description of a term used in the performance criteria, evidence of attainment, learning outcomes, or learning objectives

Appendix A – Acronyms: a list of acronyms used in the standard with their full name

Appendix B – Tools and Equipment / Outils et équipement: a non-exhaustive list of tools and equipment used in this trade

Appendix C – Glossary / Glossaire: definitions or explanations of selected technical terms used in the standard

METHODOLOGY

Development of the Standard

A draft standard is developed by a broad group of trade representatives, including tradespeople, instructors and employers at a National Workshop led by a team of facilitators. This draft standard breaks down all the tasks performed in the occupation and describes the knowledge and abilities required for a tradesperson to demonstrate competence in the trade.

Draft Review

The RSOS development team forwards a copy of the standard and its translation to provincial and territorial authorities who consult with industry representatives to review it. Their recommendations are assessed and incorporated into the standard.

Validation and Weighting

Participating provinces and territories also consult with industry to validate and weight the document for the purpose of planning the makeup of the Red Seal Interprovincial Examination for the trade. They validate and weight the major work activities (MWA), tasks and sub-tasks, of the standard as follows:

MWA	Each jurisdiction assigns a percentage of questions to each MWA for an examination that would cover the entire trade.
TASKS	Each jurisdiction assigns a percentage of exam questions to each task within a MWA.
SUB-TASKS	Each jurisdiction indicates, with a YES or NO, whether or not each sub-task is performed by skilled workers within the occupation in its jurisdiction.

The results of this exercise are submitted to the RSOS development team who then analyzes the data and incorporates it into the document. The RSOS provides the individual jurisdictional validation results as well as the national averages of all responses. The national averages for MWA and task weighting guide the Interprovincial Red Seal Examination plan for the trade.

The validation of the RSOS is used to identify common core sub-tasks across Canada for the occupation. If at least 70% of the responding jurisdictions' industry performs a sub-task, it shall be considered common core. Interprovincial Red Seal Examination questions are limited to the common core sub-tasks identified through this validation process.

Definitions for Validation and Weighting

YES	sub-task performed by qualified workers in the occupation in that province or territory
NO	sub-task not performed by qualified workers in the occupation in that province or territory
NV	standard Not Validated by that province or territory
ND	trade Not Designated in a province or territory
NOT COMMON CORE (NCC)	sub-task, task or MWA performed less than 70% of responding jurisdictions; these will not be tested by the Interprovincial Red Seal Examination for the trade
NATIONAL AVERAGE %	average percentage of questions assigned to each MWA and task in Interprovincial Red Seal Examination for the trade

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 Territory
NU	Nunavut

DESCRIPTION OF THE AUTOMOTIVE REFINISHING TECHNICIAN TRADE

"Automotive Refinishing Technician" is this trade's official Red Seal occupational title approved by the CCDA. Prior to October 2018, the trade name was Automotive Painter. This standard covers tasks performed by automotive refinishing technicians whose occupational title may vary across provinces and territories of Canada. For official provincial or territorial names, please refer to the Ellis Chart.

Automotive refinishing technicians work on the surfaces of motor vehicles, primarily in restoring vehicle finishes once body work has been completed. Some of the duties that an automotive refinishing technician completes include: removing layers of old coatings; matching colours and mixing paints; preparing surfaces for painting by spot filling, sanding, and masking; applying primers, primer surfacers, sealers, base coats, single-stage and clear coats; cleaning and polishing painted surfaces; and applying protective coatings.

Automotive refinishing technicians use hand and power tools and automotive refinishing equipment in their work. Computers and related software are used for computerized paint colour reading, generating paint formulas and tinting recommendations, and documentation.

Journeypersons 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 refinishing technicians, as they are exposed to chemical hazards such as paints and solvents, and physical hazards such as shop equipment, power tools and lifting equipment. Automotive refinishing technicians are exposed to repetitive movements, bending, lifting and reaching on a daily basis. Ongoing safety training and a good knowledge of government safety standards and regulations are important in providing a safer working environment as well as addressing environmental concerns.

Many automotive refinishing technicians work in close contact with auto body and collision technicians who tend to work in multi-shop companies, independent or dealership auto body and collision shops. Automotive painting duties may overlap with auto body and collision technicians' duties, particularly in small shops. In larger places of employment, automotive refinishing technicians likely work as specialists, after body repairs have been completed. They may also work with estimators, partspersons, detailers, preppers, glass installers and production managers. While they may work as part of the repair team, automotive refinishing technicians tend to work independently. They may work in the automotive, truck and transport, commercial transport, heavy equipment, motorcycle, specialty vehicle, aviation and aerospace sectors.

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, problem solving and multitasking skills. Good physical condition and agility are important because the work often requires considerable standing, bending, crouching, kneeling and reaching.

Being an automotive refinishing technician is very rewarding. With experience, journeypersons have a number of career options, including supervisory or teaching/training in the field, insurance appraiser, estimator and manufacturers' representative.

TRENDS IN THE AUTOMOTIVE REFINISHING TECHNICIAN TRADE

The use of environmentally responsible materials is continually evolving in the trade. Regulations controlling their use and disposal are becoming stricter than in previous years.

Computer software is used for colour formula and document retrieval and assists in colour matching and mixing. Online paint training and general information retrieval is increasing rapidly as well as the use of computers to monitor and report on usage of liquids, material costs and inventory.

Manufacturers' systems involving spectrophotometers, internet-based ordering software and equipment are more involved in the day-to-day operations. High tech equipment such as speed-dry, anti-static guns, nitrogen spray systems are increasing efficiency but making the paint process much more technical. While these high technology tools are helpful, they are only supplemental to the trained eye of an experienced professional automotive refinishing technician who is attuned to fine detail.

Hybrid, electric vehicles (EV) and alternative fuel vehicles are becoming increasingly popular. Original equipment manufacturers (OEM) have specific recommendations for working on these types of vehicles to prevent vehicle damage and ensure worker safety.

Vehicle build technology is also advancing and affecting refinishing work. More aluminum and composite materials are used, and automotive refinishing technicians must be aware of the effect these materials have on how they do their job.

Auto manufacturers are increasingly using 3 and 4 stage paint colours and specialty micro flake metallic with specialized preparation and application procedures. Specialized anti-scratch products (ceramic/nano coating and ceramic clear coat) are increasingly being used. Faster curing products are also increasing efficiency.

Innovation is seen in areas such as nanotechnology, applications using nitrogen spray systems, and curing technologies involving ultraviolet (UV) and broadband infrared curing.

The introduction of high-solid contents and waterborne paints has decreased the level of volatile organic compound (VOC) emissions, as well as the use and disposal of VOCs. Some manufacturers have developed ways to continue to use solvent-based products using exempt solvents that produce lower levels of VOCs.

The structure of day-to-day operations in repair facilities has changed with more specialization of departments and work. Attention to detail and problem-solving skills are becoming more critical for the trade to be able to overcome color match challenges and thus eliminating rework and decreasing costs.

ESSENTIAL SKILLS SUMMARY

Essential skills are needed for work, learning and life. They provide the foundation for learning all other skills and enable people to evolve with their jobs and adapt to workplace change.

Through extensive research, the Government of Canada and other national and international agencies have identified and validated nine essential skills. These skills are used in nearly every occupation and throughout daily life in different ways.

A series of CCDA-endorsed tools have been developed to support apprentices in their training and to be better prepared for a career in the trades. The tools can be used independently or with the assistance of a tradesperson, trainer, employer, teacher or mentor to:

- understand how essential skills are used in the trades;
- learn about individual essential skills strengths and areas for improvement; and
- improve essential skills and increase success in an apprenticeship program.

The tools are available online or for order at: https://www.canada.ca/en/employment-social-development/programs/essential-skills/profiles.html.

The application of these skills may be described throughout this document within the skills and knowledge which support each sub-task of the trade. The following are summaries of the requirements in each of the essential skills, taken from the essential skills profile. A link to the complete essential skills profile can be found at http://www.red-seal.ca/.

READING

Automotive refinishing technicians read repair orders (work orders and estimates), labels, application or installation instructions, technical data sheets (TDS), manufacturers' service bulletins and manuals for safe use and storage of paints, solvents and equipment. They also read trade publications to learn about new technologies, products and materials.

DOCUMENT USE

Automotive refinishing technicians reference safety or hazard icons to obtain information on a product's toxicity. They read forms and tables to determine product specifications such as temperatures, humidity, drying times and ratios. Automotive refinishing technicians also use colour chips, vehicle information, tinting charts and technology to determine colour variant to achieve a blend-able match. They use safety and environmental documentation such as safety data sheets (SDS), VOC and isocyanates logs, maintenance logs, and TDS. They track and log colour libraries. They use business-related documentation such as: time sheets, repair orders (work orders), production schedules and pre-delivery checklists.

WRITING

Automotive refinishing technicians write notes on repair orders (work orders) and forms to describe previous damage, work that was carried out and any irregularities. Automotive refinishing technicians may write reports describing workplace accidents and note information for the colour library, chemical tracking and equipment logs. They may prepare lists for ordering inventory.

ORAL COMMUNICATION

Automotive refinishing technicians communicate with colleagues and customers about the scope of work and work completed. They explain procedures to apprentices and estimators. Automotive refinishing technicians need to communicate with suppliers and manufacturer representatives.

NUMERACY

Automotive refinishing technicians monitor temperatures, humidity and pressure levels. They calculate quantities of materials needed and mix refinishing materials based on weight, volume, ratios and formulas. Automotive refinishing technicians may also estimate time required to complete painting tasks including force-drying calculations.

THINKING

Automotive refinishing technicians use analytical and problem solving skills to determine appropriate solutions to refinishing issues such as surface imperfections, contamination, production problems and equipment problems. Automotive refinishing technicians make decisions about which products to use to create the desired finish. They use organizational skills to enhance production schedule and maintain work flow.

WORKING WITH OTHERS

Automotive refinishing technicians spend most of their time working independently but they are required to coordinate activities with colleagues from body repair, detailing, vehicle preparation and office staff to maintain production schedule. They may also work directly with colleagues to help them with vehicle preparation duties.

DIGITAL TECHNOLOGY

Automotive refinishing technicians may use digital tools and equipment to measure temperature, humidity, air pressure and paint thickness. They may also use digital devices to determine paint colours and codes. Automotive refinishing technicians may use computer software to retrieve paint formulas and access instructions for selecting and mixing appropriate refinishing materials. Workplace records and technical and safety information may be recorded and accessed using computers.

CONTINUOUS LEARNING

Automotive refinishing technicians are continuously learning to keep up with the changes in the industry in relation to products, vehicles and equipment. They may attend manufacturers' or suppliers' seminars to become a certified user of their products. Some jurisdictions require automotive refinishing technicians to participate in continuous learning.

Roles and Opportunities for Skilled Trades in a Sustainable Future

Climate change affects all of us. Trades play a large role in implementing solutions and adjusting to changes in the world.

Throughout this standard, there may be specific references to tasks, skills and knowledge that clearly show this trade's role in a more sustainable future. Each trade has different roles to play and contributions to make in their own way.

For example:

- Construction tradespeople need to consider the materials they are using, building methods, and improvements to mechanical and electrical installations. There are important changes to codes and standards to help meet the climate change goals and commitments set for 2030 and 2050. Retrofits and new construction of low-energy buildings provide enormous opportunities for workers in this sector. Concepts, such as energy efficiency and regarding buildings as systems are foundational.

- Automotive and mechanical trades are seeing a shift towards the electrification of vehicles and equipment. As a result, new skills and knowledge will be required for tradespeople working in this sector. There are mandates for sales of new light-duty zero-emission vehicles (ZEV) in Canada, with the goal of achieving 100% ZEV sales by 2035. Due to this mandate, the demand for these vehicles is growing quickly among consumers and fleets. With this escalating demand, the need for skilled workers to maintain and repair these vehicles is also increasing.

- In industrial and resource sectors, there is pressure to move towards increased electrification of industrial processes. Many industrial and commercial facilities are also being upgraded to improve energy efficiency in areas such as lighting systems, and new production processes and technologies. There are also opportunities in carbon capture, utilization and storage (CCUS), as well as the production and export of low-carbon hydrogen.

- Trades in the service sector may also need to be aware of responsible sourcing, as well as efficient use of products and materials. New ways of working better are always a part of the job.

There are fast-moving changes in guidelines, codes, regulations and specifications. Many are being implemented for the purpose of energy efficiency and climate change. Those that affect specific trades may be mentioned within the standard. Examples of these guidelines and legislation include:

- The National Energy Code of Canada for Buildings (NECB).

- The Canadian Net-Zero Emissions Accountability Act (CNZEAA).

- programs that encourage sustainable building design and construction such as Leadership in Energy and Environmental Design (LEED) and the Zero Carbon Building (ZCB) standards.

- the Montreal Protocol for phasing out R22 refrigerants.

- energy efficiency programs such as ENERGY STAR.

- principles of the United Nations Declaration for the Rights of Indigenous Peoples pertaining to energy sector development.

Apprentices and tradespeople need to increase their climate literacy and reinforce their own understanding of energy issues and environmental practices. It is important for them to understand why these changes are happening and their effect on trades' work. While individual tradespeople and apprentices may not be able to choose certain elements like; the architectural design of buildings, building material selection, regulatory requirements, use of electric vehicles and technologies, they must understand the impact of using these elements in their work. Impacts include using environmentally friendly products and following requirements related to the disposal and recycling of materials.

In apprenticeship, as well as in ongoing professional development, employers and instructors should encourage learning about these concepts, why they are important, how they are implemented, and the overarching targets they are aiming to achieve.

All in all, it's about doing the work better and building a better world.

INDUSTRY EXPECTED PERFORMANCE

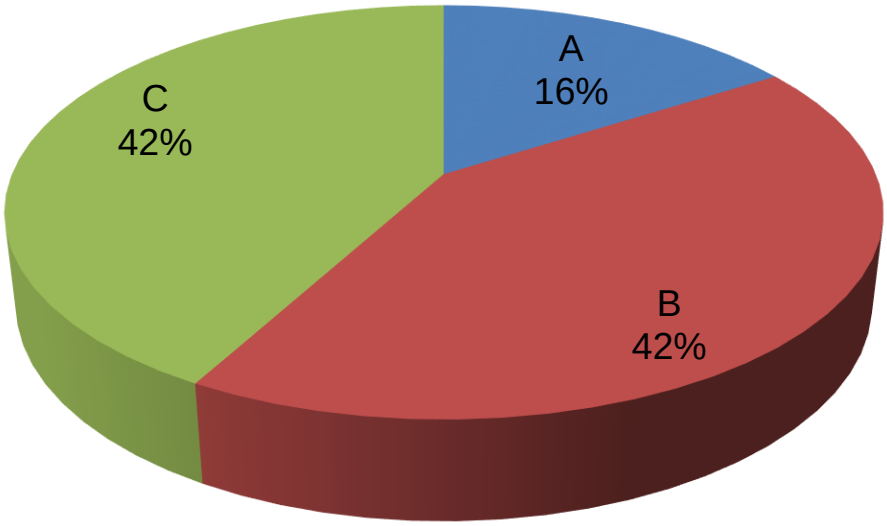
All tasks must be performed according to the applicable jurisdictional regulations and standards. All health and safety standards must be respected and observed. Work should be done efficiently and at a high quality without material waste or environmental damage. All requirements of the manufacturers, client expectations, the Occupational Health and Safety (OH&S) Acts, and Workplace Hazardous Materials Information System (WHMIS) regulations must be met. At a journeyperson level of performance, all tasks must be done with minimal direction and supervision. As a journeyperson progresses in their career there is an expectation they continue to upgrade their skills and knowledge to keep pace with industry and promote continuous learning in their trade through mentoring of apprentices.

LANGUAGE REQUIREMENTS

It is expected that journeypersons are able to understand and communicate in either English or French, which are Canada's official languages. English or French are the common languages of business as well as languages of instruction in apprenticeship programs.

PIE CHART

OF RED SEAL EXAMINATION WEIGHTINGS



MWA A	Performs common occupational skills	16%
MWA B	Performs preparation	42%
MWA C	Performs refinishing procedures	42%

This pie chart represents a breakdown of the interprovincial Red Seal examination. Percentages are based on the collective input from workers from the trade from across Canada. The Task Matrix on the next pages indicates the breakdown of tasks and sub-tasks within each Major Work Activity and the breakdown of questions assigned to the Tasks. The Interprovincial examination for this trade has 120 questions.

AUTOMOTIVE REFINISHING TECHNICIAN

TASK MATRIX

A – Performs common occupational skills — 16%

Task A-1 **Performs safety-related functions** **22%**	**1.01 Maintains safe workplace**	**1.02 Uses personal protective equipment (PPE) and safety equipment**	
Task A-2 **Maintains tools and equipment** **36%**	**2.01 Maintains hand and power tools**	**2.02 Maintains spray booth**	**2.03 Maintains spray equipment**
	2.04 Maintains mixing equipment	**2.05 Maintains shop equipment**	
Task A-3 **Organizes work** **28%**	**3.01 Uses documentation**	**3.02 Performs inspections**	**3.03 Contributes to development of repair plan**
	3.04 Organizes refinish production schedule		
Task A-4 **Uses communication and mentoring techniques** **14%**	**4.01 Uses communication techniques**	**4.02 Uses mentoring techniques**	

B – Performs preparation

42%

Task B-5 **Prepares surface** **64%**	**5.01 Performs initial preparation**	**5.02 Masks surface**	**5.03 Strips surface**
	5.04 Sands surface		
Task B-6 **Uses repair materials** **36%**	**6.01 Mixes repair materials**	**6.02 Applies repair materials**	**6.03 Applies protective coating**

C – Performs refinishing procedures

42%

Task C-7 **Prepares refinishing equipment** **16%**	**7.01 Prepares spray booth**	**7.02 Performs spray gun setup**	
Task C-8 **Prepares refinishing materials** **27%**	**8.01 Mixes refinishing materials**	**8.02 Performs colour adjustments**	
Task C-9 **Applies refinishing materials** **41%**	**9.01 Applies sealers**	**9.02 Applies base coat**	**9.03 Applies single-stage paint**
	9.04 Applies clear coat		
Task C-10 **Performs post-refinishing functions** **16%**	**10.01 Removes masking materials**	**10.02 Corrects surface imperfections**	**10.03 Performs final check**

Harmonization of Apprenticeship Training

Provincial and territorial apprenticeship authorities are each responsible for their respective apprenticeship programs. In the spirit of continual improvement, and to facilitate mobility among apprentices in Canada, participating authorities have agreed to work towards harmonizing certain aspects of their programs where possible. After consulting with their stakeholders in the trade, they have reached consensus on the following elements. Note that implementation of these elements may vary from jurisdiction to jurisdiction, depending on their own circumstances. For more information on the implementation in any province and territory, please contact that jurisdiction's apprenticeship authority.

1. Trade name

The official Red Seal name for this trade is Automotive Refinishing Technician.

2. Number of Levels of Apprenticeship

The number of levels of technical training recommended for this trade is 2 (two).

3. Total Training Hours During Apprenticeship Training

The total hours of training, including both on-the-job and in-school training for this trade is 3600.

4. Sequencing Topics and Related Sub-tasks

The topic titles in the table below are placed in a column for each apprenticeship level for technical training. Each topic is accompanied by the sub-tasks and their reference number. The topics in the grey shaded cells represent those that are covered "in context" with other training in the subsequent years.

Level 1	Level 2
	In Context
	Safety-Related Functions
Safety-Related Functions 1.01 Maintains safe work environment 1.02 Uses personal protective equipment (PPE) and safety equipment	
Tools and Equipment 2.01 Maintains hand and power tools 2.02 Maintains spray booth 2.03 Maintains spray equipment 2.04 Maintains mixing equipment 2.05 Maintains shop equipment	**Tools and Equipment** 2.03 Maintains spray equipment 2.04 Maintains mixing equipment
Work Organization 3.01 Uses documentation 3.02 Performs inspections	**Work Organization** 3.01 Uses documentation 3.02 Performs inspections 3.03 Contributes to development of repair plan 3.04 Organizes refinish production schedule

Level 1	Level 2
Communication 4.01 Uses communication techniques	**Communication and Mentoring** 4.01 Uses communication techniques 4.02 Uses mentoring techniques
Surface Preparation 5.01 Performs initial preparation 5.02 Masks surface 5.03 Strips surface 5.04 Sands surface	**Surface Preparation** 5.02 Masks surface *(specialized and advanced techniques)*
Repair Materials 6.01 Mixes repair materials 6.02 Applies repair materials 6.03 Applies protective coating	
Equipment Preparation 7.01 Prepares spray booth 7.02 Performs spray gun setup	**Equipment Preparation** 7.01 Prepares spray booth 7.02 Performs spray gun setup
Preparation of Refinishing Materials 8.01 Mixes refinishing materials (introduction)	**Preparation of Refinishing Materials** 8.01 Mixes refinishing materials 8.02 Performs colour adjustments
Application of Refinishing Materials 9.02 Applies base coat (introduction) 9.03 Applies single-stage paint (introduction)	**Application of Refinishing Materials** 9.01 Applies sealers 9.02 Applies base coat 9.03 Applies single-stage paint 9.04 Applies clear coat
	Post-Refinishing Functions 10.01 Removes masking materials 10.02 Corrects surface imperfections 10.03 Performs final check

MAJOR WORK ACTIVITY A

Performs common occupational skills

TASK A-1 Performs safety-related functions

TASK DESCRIPTOR

Automotive refinishing technicians protect themselves and co-workers by maintaining a safe workplace. They also protect themselves by using personal protective equipment (PPE) and safety equipment.

A-1.01 Maintains safe workplace

Essential Skills	Document Use, Working with Others, Thinking

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

	SKILLS	
	Performance Criteria	**Evidence of Attainment**
A-1.01.01P	identify ***workplace hazards***	***workplace hazards*** are identified according to safety data sheets (SDS) and jurisdictional regulations
A-1.01.02P	perform ***housekeeping duties***	***housekeeping duties*** are performed according to jurisdictional regulations and job requirements
A-1.01.03P	store hazardous products	hazardous products are stored in ***locations*** according to jurisdictional regulations, SDS and environmental regulations
A-1.01.04P	operate ventilation systems	ventilation systems are operated when mixing products, sanding and spraying according to jurisdictional and environmental regulations
A-1.01.05P	identify location and condition of ***safety equipment***	location and condition of ***safety equipment*** is identified according to jurisdictional regulations and manufacturers' specifications
A-1.01.06P	dispose of and recycle ***hazardous products and waste***	***hazardous products and waste*** are disposed of and recycled according to jurisdictional and environmental regulations

A-1.01.07P	verify original equipment manufacturer (OEM) safety precautions	OEM safety precautions are verified when dealing with electric, hybrid and alternative fuel vehicles
A-1.01.08P	complete ***safety-related documentation***	***safety-related documentation*** is completed according to jurisdictional regulations

RANGE OF VARIABLES

workplace hazards include: spills, sources of ignition, sharps, chemicals, tripping hazards, metal debris (aluminum, magnesium dust)

housekeeping duties include: clearing clutter, sweeping floors, maintaining clear path to exit ways, changing filters

locations include: mix room, explosion and spill-proof cabinets, fire cabinets, prep and spray booths

safety equipment includes: spill kits, eye wash stations, chemical showers, fire extinguishers, first aid kits

hazardous products and waste include: paint products, solvents, fillers, solvent soaked rags

safety-related documentation includes: spill procedure sheets, product labelling, booth filter changes, incident reports, SDS

	KNOWLEDGE	
	Learning Outcomes	**Learning Objectives**
A-1.01.01L	demonstrate knowledge of safe work practices	identify ***workplace hazards*** and describe safe work practices
		describe procedures used to store, dispose of and recycle ***hazardous products and waste***
A-1.01.02L	demonstrate knowledge of regulatory requirements pertaining to safety	identify and describe ***workplace safety and health regulations***
		describe regulatory requirements used for the disposal of ***hazardous waste***
A-1.01.03L	demonstrate knowledge of ***safety-related documentation*** and its use	identify types and location of ***safety-related documentation*** and describe their purpose, applications and procedures for use

RANGE OF VARIABLES

workplace hazards include: spills, sources of ignition, sharps, chemicals, tripping hazards, metal debris (aluminum, magnesium dust)

hazardous products and waste include: paint products, solvents, fillers, solvent soaked rags

safety-related documentation includes: spill procedure sheets, product labelling, booth filter changes, incident reports, SDS

A-1.02 Uses personal protective equipment (PPE) and safety equipment

Essential Skills	Document Use, Working with Others, Thinking

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

SKILLS

	Performance Criteria	Evidence of Attainment
A-1.02.01P	select and wear personal protective equipment (***PPE***)	***PPE*** is selected and worn according to job requirements and SDS
A-1.02.02P	ensure proper fit of ***PPE***	proper fit of ***PPE*** is ensured according to jurisdictional regulations and equipment manufacturers' recommendations
A-1.02.03P	inspect and clean ***PPE***	***PPE*** is inspected and cleaned prior to use according to jurisdictional regulations and equipment manufacturers' recommendations
A-1.02.04P	replace damaged or defective ***PPE***	damaged or defective ***PPE*** is replaced according to equipment manufacturers' recommendations
A-1.02.05P	store ***PPE***	***PPE*** is stored in a safe and clean environment according to jurisdictional regulations and equipment manufacturers' recommendations
A-1.02.06P	operate ***safety equipment***	***safety equipment*** is operated according to jurisdictional regulations and equipment manufacturers' recommendations
A-1.02.07P	dispose of used spill kits	used spill kits are disposed of according to environmental regulations

RANGE OF VARIABLES

PPE includes: paint suit, supplied air systems, fresh air and charcoal filter masks, particulate masks, gloves, ear protection, safety boots, eye protection, ultraviolet (UV) protection

safety equipment includes: spill kits, eye wash stations, chemical showers, fire extinguishers, safety cabinets, first aid kits

KNOWLEDGE

	Learning Outcomes	Learning Objectives
A-1.02.01L	demonstrate knowledge of ***PPE*** and ***safety equipment***, their applications, maintenance, storage and procedures for use	identify types of ***PPE*** and ***safety equipment*** and describe their applications and limitations
		describe ***PPE*** and ***safety equipment*** operations

		describe the procedures used to inspect, maintain, care for and store ***PPE*** and ***safety equipment***
A-1.02.02L	demonstrate knowledge of regulatory requirements pertaining to ***PPE*** and ***safety equipment***	identify and interpret the regulatory requirements and responsibilities
		identify and describe workplace safety and health regulations pertaining to the use of ***PPE*** and ***safety equipment***

RANGE OF VARIABLES

PPE includes: paint suit, supplied air systems, fresh air and charcoal filter masks, particulate masks, gloves, ear protection, safety boots, eye protection, ultraviolet (UV) protection

safety equipment includes: spill kits, eye wash stations, chemical showers, fire extinguishers, safety cabinets, first aid kits

TASK A-2 Maintains tools and equipment

TASK DESCRIPTOR

Automotive refinishing technicians use various tools and equipment to complete multiple tasks throughout their day. Regular maintenance of tools and equipment is important for safe operation and desired results.

A-2.01 Maintains hand and power tools

Essential Skills	Reading, Thinking, Document Use

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

	SKILLS	
	Performance Criteria	**Evidence of Attainment**
A-2.01.01P	lubricate ***pneumatic tools***	***pneumatic tools*** are lubricated according to equipment manufacturers' specifications
A-2.01.02P	replace ***consumables***	***consumables*** are replaced according to job requirements and condition of consumable
A-2.01.03P	inspect, clean and maintain ***tools***	***tools*** are inspected, cleaned and maintained according to use and equipment manufacturers' specifications

A-2.01.04P	remove ***defective tools*** from service	***defective tools*** are removed from service according to condition of tool
A-2.01.05P	store ***hand*** and ***power tools***	***hand*** and ***power tools*** are stored according to equipment manufacturers' specifications
A-2.01.06P	charge and store battery powered equipment	battery powered equipment is charged and stored according to equipment manufacturers' specifications

RANGE OF VARIABLES

pneumatic tools include: sanders, blower, polisher, rotary tools, spray guns
consumables include: sanding pads, eraser wheels, polishing pads, wire wheels
defective tools include: unsafe, worn, broken, frayed cords, missing safety guards
hand tools include: sanding blocks, knives, razor blades, scrapers, screwdrivers, sockets, wrenches
power tools include: pneumatic, electric (heat guns, polishers, cordless, colour-corrective light)

	KNOWLEDGE	
	Learning Outcomes	**Learning Objectives**
A-2.01.01L	demonstrate knowledge of ***hand*** and ***power tools***, their applications and procedures for use	identify types of ***hand*** and ***power tools***
		describe applications, limitations and procedures for use of ***hand*** and ***power tools***
		describe the procedures used to inspect ***hand*** and ***power tools***
A-2.01.02L	demonstrate knowledge of the maintenance and storage of ***hand*** and ***power tools***	describe the procedures used to store and maintain ***hand*** and ***power tools***

RANGE OF VARIABLES

hand tools include: sanding blocks, knives, razor blades, scrapers, screwdrivers, sockets, wrenches
power tools include: pneumatic, electric (heat guns, polishers, cordless, colour-corrective light)

A-2.02 Maintains spray booth

Essential Skills	Document Use, Writing, Thinking

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

SKILLS

	Performance Criteria	Evidence of Attainment
A-2.02.01P	replace ***components***	***components*** are replaced according to equipment manufacturers' specifications, and jurisdictional and environmental regulations
A-2.02.02P	clean ***spray booth*** and ***components***	***spray booth*** and ***components*** are cleaned according to equipment manufacturers' recommendations
A-2.02.03P	re-apply booth coatings and sealants	booth coatings and sealants are re-applied according to use and product, and manufacturers' recommendations
A-2.02.04P	inspect and perform minor adjustments to booth doors, latches, seals, curtains and drive belts	booth doors, latches, seals, curtains and drive belts are inspected and adjusted when necessary
A-2.02.05P	identify operational problems with air makeup systems	operational problems with air makeup systems are identified and reported
A-2.02.06P	maintain service and maintenance records	service and maintenance records are maintained according to manufacturers' recommendations and jurisdictional regulations

RANGE OF VARIABLES

components include: filters, lights, seals, hoses, glass, intake, exhaust, fire suppression, drying equipment

spray booths include: down draft, cross flow, semi-down draft, prep station

KNOWLEDGE

	Learning Outcomes	Learning Objectives
A-2.02.01L	demonstrate knowledge of types of ***spray booths*** and their ***components*** and applications	describe types of ***spray booths*** and their ***components*** and applications
		describe procedures used to maintain ***spray booths*** and their ***components***
		identify types of lighting used in ***spray booths***
A-2.02.02L	demonstrate knowledge of ***spray booth*** maintenance and adjustments	identify types of booth coatings

		identify types of adjustments
		identify filter conditions
A-2.02.03L	demonstrate knowledge of interpreting maintenance schedules	describe procedures used to interpret maintenance schedules

RANGE OF VARIABLES

spray booths include: down draft, cross flow, semi-down draft, prep station

components include: filters, lights, seals, hoses, glass, intake, exhaust, fire suppression, drying equipment

A-2.03 Maintains spray equipment

Essential Skills	Document Use, Reading, Thinking

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

SKILLS

	Performance Criteria	Evidence of Attainment
A-2.03.01P	disassemble, clean, lubricate, re-assemble and store ***spray gun***	***spray gun*** is disassembled, cleaned, lubricated, re-assembled and stored according to equipment manufacturers' specifications
A-2.03.02P	clean and verify operation of gun washers	gun washers are cleaned and operation is verified according to equipment manufacturers' specifications
A-2.03.03P	recycle solvent and waterborne gun wash	solvent and waterborne gun wash is recycled according to environmental regulations
A-2.03.04P	inspect and replace worn and damaged parts	worn and damaged parts are inspected and replaced according to condition of parts
A-2.03.05P	maintain ***compressors***	***compressors*** are maintained by draining water and changing oil, filters and belts according to equipment manufacturers' specifications

A-2.03.06P	maintain lines, filters and regulators	lines, filters and regulators are maintained according to spray equipment use, equipment manufacturers' specifications and jurisdictional regulations
A-2.03.07P	inspect, clean and verify operation of ***compressed air dryers*** and moisture traps	***compressed air dryers*** and moisture traps are inspected, cleaned and verified for operation according to equipment manufacturers' specifications and jurisdictional regulations

RANGE OF VARIABLES

spray guns include: pressure feed, gravity feed, suction feed, high volume low pressure (HVLP), reduced pressure (RP) guns

compressors include: shop air, breathable air, screw, vane, piston, diaphragm

compressed air dryers include: desiccant dryers, refrigerant dryers

	KNOWLEDGE	
	Learning Outcomes	**Learning Objectives**
A-2.03.01L	demonstrate knowledge of ***spray equipment*** and its components	identify types of ***spray guns*** and their ***components***
A-2.03.02L	demonstrate knowledge of ***compressors***, filters, lines, regulators and nitrogen generators	identify types of ***compressors***, filters, lines, regulators and nitrogen generators and their uses
A-2.03.03L	demonstrate knowledge of ***spray equipment*** maintenance	identify procedures used to inspect ***spray equipment***
		identify types of cleaning products and equipment used to clean ***spray guns***
		describe procedures used to clean and store ***spray equipment***
		identify types of lubricants and their purpose
		identify maintenance requirements of ***compressed air dryers***

RANGE OF VARIABLES

spray equipment includes: spray guns, gun washers, compressors, air lines, filters, venturi blower, air dryers, regulators, anti-static spray gun

spray guns include: pressure feed, gravity feed, suction feed, high volume low pressure (HVLP), reduced pressure (RP) guns

spray gun components include: air caps, packings, fluid needles, fluid tips, air micrometers, spray cups, pressure pots

compressors include: shop air, breathable air, screw, vane, piston, diaphragm

compressed air dryers include: desiccant dryers, refrigerant dryers

A-2.04 Maintains mixing equipment

Essential Skills	Digital Technology, Thinking, Document Use

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

SKILLS

	Performance Criteria	Evidence of Attainment
A-2.04.01P	update and organize ***colour library***	***colour library*** is updated and organized by colour or manufacturer
A-2.04.02P	maintain ***mixing system***	***mixing system*** is maintained according to manufacturers' specifications to ensure that it is clean and functioning
A-2.04.03P	maintain mixing room	mixing room is maintained to ensure that it is clean and functioning

RANGE OF VARIABLES

colour library includes: variant decks (chips), spray-out cards, colour formula, colour books

mixing system includes: mixing software, computer, scales, spectrophotometers, toners, agitators, colour chips, ratio sticks, shakers, mixing cups

KNOWLEDGE

	Learning Outcomes	Learning Objectives
A-2.04.01L	demonstrate knowledge of paint manufacturers' software and equipment, their applications and procedures for use	identify types of ***computer hardware and software applications***
		describe the types of ***technical information*** retrieved from paint manufacturers' software
A-2.04.02L	demonstrate knowledge of paint manufacturers' software and equipment maintenance	describe the procedures used to clean and calibrate a scale
		identify procedures used for cleaning and maintaining mixing equipment
		identify procedures used to update paint manufacturers' software
		identify procedures used to clean and maintain ***electronics***

RANGE OF VARIABLES

computer hardware and software applications include: spectrophotometer, paint mixing, job tracking, inventory and data retrieval

technical information includes: technical data sheets (TDS), SDS, mixing ratios, colour formulation

electronics include: computer, spectrophotometer, scales, colour-corrective light

A-2.05 Maintains shop equipment

Essential Skills	Reading, Thinking, Document Use

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

SKILLS

	Performance Criteria	Evidence of Attainment
A-2.05.01P	lubricate ***shop equipment***	***shop equipment*** is lubricated using body shop safe lubricant (silicone-free)
A-2.05.02P	replace damaged and worn parts	damaged and worn parts are replaced according to condition
A-2.05.03P	inspect and clean ***shop equipment***	***shop equipment*** is inspected and cleaned according to use, equipment manufacturers' specifications and OH&S regulations
A-2.05.04P	tag and lock out defective ***shop equipment***	defective ***shop equipment*** is tagged and locked out to prevent use of unsafe equipment
A-2.05.05P	store ***shop equipment***	***shop equipment*** is stored according to equipment manufacturers' specifications and OH&S regulations

RANGE OF VARIABLES

shop equipment includes: curing lamps, dust extraction, masking machine, hydraulic jacks, stands and racks, track systems, lifts, hoses, power cords

KNOWLEDGE

	Learning Outcomes	Learning Objectives
A-2.05.01L	demonstrate knowledge of ***shop equipment***, their applications and procedures for use	identify types of ***shop equipment***
		describe ***shop equipment*** applications, limitations and procedures for use

		describe the procedures used to inspect ***shop equipment***
A-2.05.02L	demonstrate knowledge of ***shop equipment*** maintenance and storage	describe the procedures used to store and maintain ***shop equipment***

RANGE OF VARIABLES

shop equipment includes: curing lamps, dust extraction, masking machine, hydraulic jacks, stands and racks, track systems, lifts, hoses, power cords

TASK A-3 Organizes work

TASK DESCRIPTOR

Automotive refinishing technicians are constantly adapting to changing circumstances within the body shop environment. Therefore, ongoing planning and communication are important. Automotive refinishing technicians use a variety of documents to plan and record their work.

A-3.01 Uses documentation

Essential Skills	Digital Technology, Document Use, Writing

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

	SKILLS	
	Performance Criteria	**Evidence of Attainment**
A-3.01.01P	locate vehicle identification number (VIN) and vehicle build stickers	VIN and vehicle build stickers are located
A-3.01.02P	interpret VIN and vehicle build stickers and record paint code	VIN and vehicle build stickers are interpreted to determine ***information*** and paint code is recorded
A-3.01.03P	interpret ***information in technical manuals/data sheets and bulletins***	***information in technical manuals/data sheets and bulletins*** is interpreted to aid in refinish operations
A-3.01.04P	interpret trade terminology and information on repair orders (work orders) and estimates	trade terminology and information on repair orders (work orders) and estimates are interpreted to carry out refinishing procedures
A-3.01.05P	document and organize ***colour library***	***colour library*** is updated with necessary information
A-3.01.06P	maintain service records and maintenance logs	service records and maintenance logs are maintained according to manufacturers' scheduled maintenance

A-3.01.07P	maintain ***hazardous materials log***	***hazardous materials log*** is maintained according to jurisdictional regulations
A-3.01.08P	interpret and complete ***safety documentation***	***safety documentation*** is interpreted and completed

RANGE OF VARIABLES

information includes: paint codes, trim levels and colours, OEM-relevant information, production date, make and model

information in technical manuals/data sheets and bulletins include: product information, OEM-relevant information, regulations

colour library includes: spray-out cards, let-down panels, variants, custom formulas, field formulas

hazardous materials log includes: isocyanate, volatile organic compound (VOC)

safety documentation includes: WHMIS, incident reports, spill logs, SDS, workplace labels

	KNOWLEDGE	
	Learning Outcomes	**Learning Objectives**
A-3.01.01L	demonstrate knowledge of trade-related documentation and its use	identify and interpret sources of vehicle-related ***information***
		identify and interpret types of technical manuals/data sheets and bulletins
		identify, interpret and complete types of ***safety documentation***
		identify and record information for ***colour library***
		identify information required for service records and maintenance logs

RANGE OF VARIABLES

information includes: paint codes, trim levels and colours, OEM-relevant information, production date, make and model

safety documentation includes: WHMIS, incident reports, spill logs, SDS, workplace labels

colour library includes: spray-out cards, let-down panels, variants, custom formulas, field formulas

A-3.02 Performs inspections

Essential Skills	Document Use, Thinking, Oral Communication

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

	SKILLS	
	Performance Criteria	**Evidence of Attainment**
A-3.02.01P	verify tasks listed in repair estimate	tasks listed in repair estimate are verified to ensure accuracy of estimate and to report additional operations
A-3.02.02P	inspect body repairs	body repairs are inspected to ensure they meet shop standards
A-3.02.03P	inspect panels	panels are inspected for additional or missed ***damage*** and ***surface conditions***
A-3.02.04P	perform surface evaluation test	surface evaluation test is performed to validate pre-existing surface to paint manufacturer and OEM standards

RANGE OF VARIABLES

damage includes: dents, scratches, runs, dust nibs, stone chips, rust, environmental
surface conditions include: colour mismatch, mil thickness, adhesion, checking, cracking

	KNOWLEDGE	
	Learning Outcomes	**Learning Objectives**
A-3.02.01L	demonstrate knowledge of the procedures used to perform an inspection	identify the procedures used to perform a visual inspection
		define terminology associated with body repair vehicle inspection
		identify types of ***damage*** and ***surface conditions***
		identify the procedures used to perform surface evaluation testing

RANGE OF VARIABLES

damage includes: dents, scratches, runs, dust nibs, stone chips, rust, environmental
surface conditions include: colour mismatch, mil thickness, adhesion, checking, cracking

A-3.03 Contributes to development of repair plan

Essential Skills	Document Use, Oral Communication, Thinking

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

SKILLS

	Performance Criteria	Evidence of Attainment
A-3.03.01P	identify types of ***paint finish***, colour and blend requirements	types of ***paint finish***, colour and blend requirements are identified and provided to estimator
A-3.03.02P	determine surface preparation requirements	surface preparation requirements are determined based on finish and colour

RANGE OF VARIABLES

paint finishes include: two-tone, single stage, base coat/clear coat, multi-stage, texture, gloss level

KNOWLEDGE

	Learning Outcomes	Learning Objectives
A-3.03.01L	demonstrate knowledge of the development of repair estimates and their applications	describe repair estimate, terminology, procedures and its purpose
		identify types of surface preparation and blend requirements
		identify information required to contribute to a repair estimate

A-3.04 Organizes refinish production schedule

Essential Skills	Document Use, Thinking, Working with Others

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

SKILLS

	Performance Criteria	Evidence of Attainment
A-3.04.01P	identify and select ***materials***	***materials*** are identified and selected according to job requirements
A-3.04.02P	verify ***material*** inventory	***material*** inventory is verified
A-3.04.03P	plan daily refinishing tasks	daily refinishing tasks are planned according to ***shop conditions***
A-3.04.04P	adapt to changing ***shop conditions***	production schedule is modified according to changing ***shop conditions***
A-3.04.05P	develop refinishing schedule	refinishing schedule is developed according to shop production schedule
A-3.04.06P	convey refinishing schedule	refinishing schedule is conveyed to refinishing department and other shop personnel

RANGE OF VARIABLES

materials include: abrasives, cleaners, refinish coatings, masking, specialty (toners, additives, clears, pigments, dyes)

shop conditions include: availability of equipment and material, repair process duration, delivery schedule, shop production limitations, size of repairs, availability of personnel, environmental conditions, equipment malfunction, repair additions, rework, work in progress (WIP)

KNOWLEDGE

	Learning Outcomes	Learning Objectives
A-3.04.01L	demonstrate knowledge of shop production schedules	describe ***shop conditions*** that may influence shop production schedule
A-3.04.02L	demonstrate knowledge of refinish production schedules	identify ***materials*** required based on the job requirement
		describe procedures used to order products and ***materials***
		describe factors to consider for organizing refinish production schedules
		identify refinish inventory requirements
		describe theoretical coverage

RANGE OF VARIABLES

shop conditions include: availability of equipment and material, repair process duration, delivery schedule, shop production limitations, size of repairs, availability of personnel, environmental conditions, equipment malfunction, repair additions, rework, work in progress (WIP)

materials include: abrasives, cleaners, refinish coatings, masking, specialty (toners, additives, clears, pigments, dyes)

TASK A-4 Uses communication and mentoring techniques

TASK DESCRIPTOR

Learning in the trades is done primarily in the workplace with tradespeople passing on their skills and knowledge to apprentices, as well as sharing knowledge among themselves. Apprenticeship is, and always has been about mentoring – learning workplace skills and passing them on. Because of the importance of this to the trade, this task covers the activities related to communication in the workplace and mentoring skills.

A-4.01 Uses communication techniques

Essential Skills	Continuous Learning, Oral Communication, Working with Others

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

	SKILLS	
	Performance Criteria	**Evidence of Attainment**
A-4.01.01P	demonstrate communication practices with individuals or in a group	instructions and messages are understood by all parties involved in communication
A-4.01.02P	listen using ***active listening*** practices	***active listening*** practices are utilized
A-4.01.03P	receive and respond to feedback on work	response to feedback indicates understanding and corrective measures are taken
A-4.01.04P	explain and provide feedback	explanation and feedback is provided and task is carried out as directed
A-4.01.05P	ask questions to improve communication	questions are asked to enhance understanding, on-the-job training and goal setting

A-4.01.06P	participate in discussions	meetings are attended, information is relayed to the workforce, and is understood and applied
A-4.01.07P	use ***alternative communication media***	***alternative communication media*** are used according to technology in place

RANGE OF VARIABLES

active listening includes: hearing, interpreting, reflecting, responding, paraphrasing

alternative communication media include: texting, internet searches, internal software, digital photographs, online training

	KNOWLEDGE	
	Learning Outcomes	**Learning Objectives**
A-4.01.01L	demonstrate knowledge of trade terminology	define terminology used in the trade
A-4.01.02L	demonstrate knowledge of effective communication practices	describe the importance of using effective verbal and non-verbal communication with ***people in the workplace***
		identify ***sources of information*** to effectively communicate
		identify communication and ***learning styles***
		describe effective listening and speaking skills
		identify ***personal responsibilities and attitudes*** that contribute to on-the-job success
		identify the value of diversity in the workplace
		identify communication that constitutes ***harassment*** and ***discrimination***

RANGE OF VARIABLES

people in the workplace include: other tradespeople, colleagues, apprentices, supervisors, customers, authorities having jurisdiction, technical representatives, suppliers

sources of information include: regulations, occupational health and safety requirements, jurisdictional requirements, specifications, estimates, work orders, colour formation

learning styles include: seeing it, hearing it, trying it

personal responsibilities and attitudes include: asking questions, working safely, accepting constructive feedback, time management and punctuality, respect for authority, good stewardship of materials, tools and property, efficient work practice

harassment includes: objectionable conduct, comment or display made either on a one-time or continuous basis that demeans, belittles, or causes personal humiliation or embarrassment to the recipient

discrimination is prohibited based on: race, national or ethnic origin, colour, religion, age, sex, sexual orientation, gender identity or expression, marital status, family status, disability, genetic characteristics, pardoned conviction

A-4.02 Uses mentoring techniques

Essential Skills	Oral Communication, Working with Others, Continuous Learning

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

	SKILLS	
	Performance Criteria	**Evidence of Attainment**
A-4.02.01P	identify and communicate learning objective and point of lesson	apprentice or learner can explain the objective and point of the lesson
A-4.02.02P	link lesson to other lessons on the job	learning opportunities are identified
A-4.02.03P	demonstrate performance of a skill to an apprentice or learner	***steps required to demonstrate a skill*** are performed
A-4.02.04P	set up conditions required for an apprentice to practice a skill	***practice conditions*** are set up so that the skill can be performed
A-4.02.05P	assess ability to perform tasks with increasing independence	performance improves with practice to a point where skill can be done with little to no supervision
A-4.02.06P	give supportive and corrective feedback	trade practices are adopted after having been given supportive and corrective feedback
A-4.02.07P	support apprentices in pursuing technical training opportunities and continuous learning throughout their career	technical training is completed within timeframe prescribed by apprenticeship authority, and continuous learning is encouraged

A-4.02.08P	support equity groups	workplace is harassment and discrimination-free
A-4.02.09P	assess employee suitability to the trade	employees are given feedback that helps them identify their own strengths and weaknesses and suitability for the trade

RANGE OF VARIABLES

steps required to demonstrate a skill include: understanding the who, what, where, when, why, and how, explaining, showing, giving encouragement, following up to ensure skill is performed correctly

practice conditions mean: guided, limited independence, full independence

	KNOWLEDGE	
	Learning Outcomes	**Learning Objectives**
A-4.02.01L	demonstrate knowledge of strategies for learning skills in the workplace	describe the importance of individual experience
		describe the shared responsibilities for workplace learning
		identify different ways of learning and determine one's own learning preferences and explain how these relate to learning new skills
		describe the importance of different types of skills in the workplace
		describe the importance of ***essential skills*** in the workplace
		identify different ***learning needs*** and strategies to meet them
		identify ***strategies to assist in learning a skill***
A-4.02.02L	demonstrate knowledge of strategies for teaching workplace skills	identify different roles played by a workplace mentor
		describe the ***steps involved in teaching skills***
		explain the importance of identifying the point of a lesson
		identify how to choose the effective time to present a lesson
		explain the importance of linking the lessons
		identify the components of the skill (the context)
		describe considerations in setting up opportunities for skill practice
		explain the importance of providing feedback

	identify techniques for giving effective feedback
	describe a skills assessment
	identify methods of assessing progress
	explain how to adjust a lesson to different situations

RANGE OF VARIABLES

essential skills are: reading, document use, writing, oral communication, numeracy, thinking, working with others, digital technology, continuous learning

learning needs include: learning disabilities, learning preferences, language proficiency

strategies to assist in learning a skill include: understanding the basic principles of instruction, developing coaching skills, being mature and patient, providing feedback

steps involved in teaching skills include: identifying the point of the lesson, linking the lesson, demonstrating the skill, providing practice, giving feedback, assessing skills and progress

MAJOR WORK ACTIVITY B

Performs preparation

TASK B-5 Prepares surface

TASK DESCRIPTOR

Automotive refinishing technicians must prepare substrates and existing surfaces for the application of undercoats and topcoats. Using proper tools, materials and techniques are important to achieve a smooth transition from repaired area to existing finish.

B-5.01 Performs initial preparation

Essential Skills	Document Use, Thinking, Continuous Learning

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

	SKILLS	
	Performance Criteria	**Evidence of Attainment**
B-5.01.01P	remove residual two-way tape and decal glue	residual two-way tape and decal glue is removed using ***tools*** and products according to job requirements and manufacturers' specifications
B-5.01.02P	clean substrate with ***products and cleaners***, and dry surface	substrate is cleaned with ***products and cleaners*** and surface is dried using ***methods*** to ensure a finish free of ***surface contamination***
B-5.01.03P	apply a ***pre-wash cleaner*** based on substrate and refinish material to be applied	***pre-wash cleaner*** is applied according to TDS, to improve adhesion and to avoid static charged flash fires
B-5.01.04P	inspect substrate	substrate is inspected for ***surface imperfections*** and ***surface evaluation*** is performed

RANGE OF VARIABLES

tools include: heat guns/lamps, rotary tools, razor blades

products and cleaners include: soapy water, degreasers, solvents, fallout remover

methods include: using chamois or cloths, compressed air

surface contamination includes: dirt, tar, tree sap, bugs, waxes, paint sealants

pre-wash cleaners include: water-based, alcohol-based, solvent-based, anti-static plastic cleaners

surface imperfections include: stone chips, corrosion, peeling, oxidization, cracking, scratches, checking, environmental damage

surface evaluation includes: paint thickness, chemical compatibility, adhesion

	KNOWLEDGE	
	Learning Outcomes	**Learning Objectives**
B-5.01.01L	demonstrate knowledge of performing initial preparation of substrates and surfaces	define terminology associated with surface preparation
		describe the procedures used to remove dust, loose debris and moisture
		describe the procedures used to remove residual two-way tape and decal glue
		identify ***tools***, ***products and cleaners*** used to remove residual two-way tape and decal glue
		identify types of ***products and cleaners*** and describe their applications and procedures for use
		identify types of ***pre-wash cleaners*** and describe their applications and procedures for use
		describe cleaning techniques
		identify hazards and describe safe work practices pertaining to surface preparation
		identify types of ***surface imperfections***

RANGE OF VARIABLES

tools include: heat guns/lamps, rotary tools, razor blades

products and cleaners include: soapy water, degreasers, solvents, fallout remover

pre-wash cleaners include: water-based, alcohol-based, solvent-based, anti-static plastic cleaners

surface imperfections include: stone chips, corrosion, peeling, oxidization, cracking, scratches, checking, environmental damage

B-5.02 Masks surface

Essential Skills	Thinking, Continuous Learning, Working with Others

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

SKILLS

	Performance Criteria	Evidence of Attainment
B-5.02.01P	apply masking tape and paper	masking tape and paper are applied to protect against damage during preparation, avoiding over and under masking
B-5.02.02P	apply spray mask (liquid mask)	spray mask (liquid mask) is applied according to manufacturers' specifications using equipment to protect areas not to be refinished from overspray
B-5.02.03P	apply plastic sheeting	plastic sheeting is applied to cover vehicle and to protect against overspray
B-5.02.04P	apply vinyl tape (fine edge)	vinyl tape (fine edge) is applied according to job requirement to prevent bridging paint and to prevent hard edges
B-5.02.05P	apply edging tape behind flexible moulding	edging tape is used behind flexible moulding to prevent ***defects***
B-5.02.06P	apply final masking materials before refinishing	final masking materials are applied using ***methods*** to avoid hard edges
B-5.02.07P	apply soft edge tape to panels	soft edge tape is applied to panels to protect against overspray and to leave a soft edge

RANGE OF VARIABLES

defects include: bridging, peeling, overspray
methods include: back masking, reverse masking

KNOWLEDGE

	Learning Outcomes	Learning Objectives
B-5.02.01L	demonstrate knowledge of ***masking materials***, their applications and procedures for use	describe the procedures and ***methods*** used to mask surfaces
		describe ***masking uses***

	identify types of ***masking materials*** and describe their applications
	describe potential ***defects*** if masking is not done properly

RANGE OF VARIABLES

masking materials include: tapes, paper, plastic sheeting, liquid mask, soft edge tape
methods include: back masking, reverse masking
masking uses include: for protection (sanding, stripping), for primer, for paint
defects include: bridging, peeling, overspray

B-5.03 Strips surface

Essential Skills	Document Use, Thinking, Continuous Learning

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

SKILLS

	Performance Criteria	Evidence of Attainment
B-5.03.01P	protect surrounding area	surrounding area is protected with ***materials***
B-5.03.02P	apply chemical stripper to work area using ***tools***	chemical stripper is applied to work area according to manufacturers' recommendations
B-5.03.03P	neutralize chemical residue	chemical residue is neutralized according to manufacturers' recommendations
B-5.03.04P	mechanically strip work area using ***tools***	work area is mechanically stripped using ***tools*** according to job requirements and TDS
B-5.03.05P	media blast work area using ***media***	work area is media blasted using ***media*** according to substrate
B-5.03.06P	remove dust and residue from work area after mechanical or ***media*** stripping	dust and residue is removed from work area after mechanical or ***media*** stripping according to manufacturers' recommendations and jurisdictional regulations

RANGE OF VARIABLES

materials include: duct tape, cardboard, masking

tools (for chemical stripping) include: brushes, aerosol sprays, scrapers, wire brushes, plastic sheeting

tools (for mechanical stripping) include: dual action sanders, stripping wheels, scrapers, razor blades, putty knives, rotary tools, compressed air blower, pressure washers

media includes: glass, sand, soda, plastic beads, crushed walnuts, dustless blasting, dry ice

	KNOWLEDGE	
	Learning Outcomes	**Learning Objectives**
B-5.03.01L	demonstrate knowledge of stripping equipment and products, their applications, safety precautions and procedures for use	identify ***methods*** used to strip topcoats and undercoats and describe their applications and associated safety or environmental considerations
		identify the ***tools*** used to mechanically strip topcoats and undercoats
		describe the effect of chemical stripping, mechanical stripping and ***media*** blasting on ***substrates***
		describe the procedures used to remove dust and residue from work area after mechanical or ***media*** stripping
		identify types of ***media*** blasting

RANGE OF VARIABLES

methods include: chemical strippers, media blasting, mechanical

tools (for chemical stripping) include: brushes, aerosol sprays, scrapers, wire brushes, plastic sheeting

tools (for mechanical stripping) include: dual action sanders, stripping wheels, scrapers, razor blades, putty knives, rotary tools, compressed air blower, pressure washers

media includes: glass, sand, soda, plastic beads, crushed walnuts, dustless blasting, dry ice

substrates are: aluminum, steel, composites, plastic

B-5.04 Sands surface

Essential Skills	Document Use, Thinking, Continuous Learning

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

SKILLS

	Performance Criteria	Evidence of Attainment
B-5.04.01P	prepare blend ***area***	blend ***area*** is prepared by using ***methods*** to achieve a uniform surface according to TDS
B-5.04.02P	featheredge ***area***	***area*** is featheredged to achieve a smooth transition from repaired ***area*** to existing finish
B-5.04.03P	back sand ***area***	***area*** is back sanded according to job requirements and TDS
B-5.04.04P	scuff sand ***area***	***area*** is scuff sanded according to job requirements and TDS to prepare for the application of undercoats
B-5.04.05P	level surface	excess primer surfacer and filler material is removed by guide coating and block sanding using the cross hatch method to achieve a level surface

RANGE OF VARIABLES

area includes: repaired area, existing finish, raw substrate

methods include: using wet or dry sandpaper, using scuff (scratch) pads, using scuff paste, guide coating, machine sanding, manual sanding

KNOWLEDGE

	Learning Outcomes	Learning Objectives
B-5.04.01L	demonstrate knowledge of ***sanding equipment*** and ***materials***, their applications, safety precautions and procedures for use	identify ***sanding equipment*** and ***materials***, their applications and procedures for use
		identify ***methods*** used to sand surfaces and describe their applications and associated safety and environmental considerations

RANGE OF VARIABLES

sanding equipment includes: machine sanders, sanding blocks
materials include: scuff paste, wet or dry sandpaper, scuff (scratch) pads, guide coat
methods include: using wet or dry sandpaper, using scuff (scratch) pads, using scuff paste, guide coating, machine sanding, manual sanding

TASK B-6 Uses repair materials

TASK DESCRIPTOR

Automotive refinishing technicians use repair materials such as fillers, primers, primer surfacers, gravel guards and seam sealers. The proper use and application of these products is important to set the foundation for the refinishing process.

B-6.01 Mixes repair materials

Essential Skills	Document Use, Digital Technology, Numeracy

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

	SKILLS	
	Performance Criteria	**Evidence of Attainment**
B-6.01.01P	mix filler with appropriate amount of hardener	filler is mixed using ***mixing techniques*** according to manufacturers' recommendations
B-6.01.02P	measure and stir quantities of primers and primer surfacers	quantities of primers and primer surfacers are measured and stirred according to job size and manufacturers' specifications
B-6.01.03P	shake ***aerosol type repair materials***	***aerosol type repair materials*** are shaken according to manufacturers' specifications
B-6.01.04P	incorporate ***additives*** while mixing ***repair material***	***additives*** are incorporated while mixing ***repair material*** according to substrate and TDS

RANGE OF VARIABLES

mixing techniques include: using a non-porous mixing board, using static mixing tip
aerosol type repair materials include: primers, adhesion promoters
additives include: flexible additives, accelerators, retarders, fish-eye eliminators
repair materials include: fillers, primers, primer surfacer

	KNOWLEDGE	
	Learning Outcomes	**Learning Objectives**
B-6.01.01L	demonstrate knowledge of ***repair materials***, their applications and procedures for use	define terminology associated with ***repair materials***
		identify types of ***repair materials*** and describe their characteristics and applications
		describe the procedures used to mix ***repair materials***
		describe ***application techniques***
		describe the considerations taken for selecting ***repair materials*** that will maintain characteristics of existing substrate
		identify types of ***additives*** and describe their characteristics and applications
		describe role of environmental conditions on working and curing times
		describe the limitations of ***repair materials***

RANGE OF VARIABLES

repair materials include: fillers, primers, primer surfacer
application techniques include: spraying, rolling, spreading
additives include: flexible additives, accelerators, retarders, fish-eye eliminators

B-6.02 Applies repair materials

Essential Skills	Document Use, Numeracy, Thinking

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

	SKILLS	
	Performance Criteria	**Evidence of Attainment**
B-6.02.01P	spread filler firmly and evenly over imperfections	filler is spread firmly and evenly over imperfections using ***tools*** according to manufacturers' specifications
B-6.02.02P	select and use spray gun with recommended nozzle assembly	spray gun with recommended nozzle assembly is selected and used according to TDS

B-6.02.03P	adjust spray gun pattern, fluid delivery and air pressure	spray gun pattern, fluid delivery and air pressure are adjusted according to spray gun and paint manufacturers' specifications and application requirements
B-6.02.04P	apply primers and primer surfacer	primers and primer surfacer are applied according to TDS

RANGE OF VARIABLES

tools include: putty knives, spreaders, spray guns

	KNOWLEDGE	
	Learning Outcomes	**Learning Objectives**
B-6.02.01L	demonstrate knowledge of applying ***repair materials***	describe the procedures and techniques used for applying ***repair materials***
		identify types of ***repair materials*** and describe their characteristics and applications
		identify types of ***tools*** used for applying ***repair materials*** and describe their characteristics and applications
		identify safety considerations when working with ***repair materials***
		explain limitations of primers and primer surfacer

RANGE OF VARIABLES

repair materials include: fillers, primers, primer surfacer
tools include: putty knives, spreaders, spray guns

B-6.03 Applies protective coating

Essential Skills	Document Use, Thinking, Continuous Learning

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

SKILLS

	Performance Criteria	Evidence of Attainment
B-6.03.01P	identify areas needing ***protective coatings***	areas needing ***protective coatings*** are identified according to manufacturers' specifications and job requirements
B-6.03.02P	clean, prepare and mask substrate	substrate is cleaned, prepared and masked prior to application of ***protective coating***
B-6.03.03P	apply ***protective coating*** to repaired location	***protective coating*** is applied to repaired location as required according to TDS, OEM specifications and job requirements

RANGE OF VARIABLES

protective coatings include: paintable and non-paintable rubberized undercoating, seam sealers

KNOWLEDGE

	Learning Outcomes	Learning Objectives
B-6.03.01L	demonstrate knowledge of ***protective coatings***, their applications and procedures for use	follow OEM specifications to determine ***areas requiring protective coatings***
		identity types of ***protective coatings***
		describe procedures used to prepare substrate prior to application of ***protective coatings***
		describe procedures used to apply ***protective coatings***

RANGE OF VARIABLES

protective coatings include: paintable and non-paintable rubberized undercoating, seam sealers

areas requiring protective coatings include: enclosed interior surfaces, exposed interior surfaces, exposed exterior surfaces, exposed seams

MAJOR WORK ACTIVITY C
Performs refinishing procedures

TASK C-7 Prepares refinishing equipment

TASK DESCRIPTOR

Spray guns and spray booths need to be set up properly to ensure quality refinish results. Automotive refinishing technicians identify and troubleshoot problems with spray equipment.

C-7.01 Prepares spray booth

Essential Skills	Document Use, Thinking, Numeracy

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

SKILLS

	Performance Criteria	Evidence of Attainment
C-7.01.01P	clean spray booth	spray booth is cleaned to ensure a dust free environment prior to vehicle or part setup
C-7.01.02P	adjust spray booth pressure	spray booth pressure is adjusted according to equipment manufacturers' specifications
C-7.01.03P	adjust spray booth temperature	spray booth temperature is adjusted according to TDS
C-7.01.04P	utilize booth space to accommodate work to be completed	booth space is utilized according to work to be completed
C-7.01.05P	position air movers	air movers are positioned for optimal coverage and to decrease flash times
C-7.01.06P	tack off ***equipment***	***equipment*** is tacked off to be free of dust
C-7.01.07P	identify spray booth problems	spray booth problems are identified
C-7.01.08P	troubleshoot spray booth problems	spray booth problems are corrected or reported

RANGE OF VARIABLES

equipment includes: hoses, stands, blowers, benches, hangers, PPE, spray equipment

	KNOWLEDGE	
	Learning Outcomes	**Learning Objectives**
C-7.01.01L	demonstrate knowledge of spray booths, their applications, and preparation procedures	describe function of spray booths
		describe the ***cycles of spray booth***
		describe the procedures to adjust spray booth pressure
		describe the procedures to adjust spray booth temperature
		describe the procedures to adjust air movers
C-7.01.02L	demonstrate knowledge of spray booth problems and troubleshooting methods	explain operating temperatures, air flow, and humidity and their effect on topcoat quality
		explain the effect of positive and negative booth pressures on topcoat quality
		describe corrective actions for spray booth problems

RANGE OF VARIABLES

cycles of spray booth include: spray, purge, bake, cool down, ramp-up time

C-7.02 Performs spray gun setup

Essential Skills	Document Use, Thinking, Numeracy

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

	SKILLS	
	Performance Criteria	**Evidence of Attainment**
C-7.02.01P	select spray gun, fluid tip, needle and air cap	spray gun, fluid tip, needle and air cap are selected according to TDS
C-7.02.02P	install fluid tip, needle and air cap	fluid tip, needle and air cap are installed using tools supplied by manufacturer
C-7.02.03P	attach spray gun to hose/coupler	spray gun is attached to hose/coupler according to equipment manufacturers' recommendations
C-7.02.04P	adjust air pressure, fluid delivery and fan width	air pressure, fluid delivery and fan width are adjusted according to spray gun and paint manufacturers' specifications and application requirements

C-7.02.05P	attach paint cup to the spray gun	product is supplied to the spray gun according to equipment manufacturers' recommendations
C-7.02.06P	verify spray pattern	spray pattern matches manufacturer specifications
C-7.02.07P	identify ***spray pattern problems***	***spray pattern problems*** are identified visually by performing a flood test
C-7.02.08P	troubleshoot ***spray pattern problems***	***spray pattern problems*** are corrected

RANGE OF VARIABLES

spray pattern problems include: heavy on top or bottom, hourglass, heavy in the middle, crescent shape, sputter

	KNOWLEDGE	
	Learning Outcomes	**Learning Objectives**
C-7.02.01L	demonstrate knowledge of spray guns, their application and setup	describe ***spray gun components***
		describe manufacturers' specifications in the selection and assembly of spray guns
		describe adjustment of spray gun air pressure, air volume and fluid delivery
C-7.02.02L	demonstrate knowledge of ***spray pattern problems*** and troubleshooting methods	describe factors affecting spray patterns
		describe corrective actions for ***spray pattern problems***

RANGE OF VARIABLES

spray gun components include: fluid tips, needles, springs, seals, baffles, air caps, gun body, trigger, paint cup, pressure gauge

spray pattern problems include: heavy on top or bottom, hourglass, heavy in the middle, crescent shape, sputter

TASK C-8 Prepares refinishing materials

TASK DESCRIPTOR

Automotive refinishing technicians must accurately mix refinishing materials and adjust colour in order to achieve desired colour and finish on the vehicle.

C-8.01 Mixes refinishing materials

Essential Skills	Digital Technology, Document Use, Numeracy

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

SKILLS

	Performance Criteria	Evidence of Attainment
C-8.01.01P	agitate or shake ***toners***	***toners*** are agitated or shaken according to TDS
C-8.01.02P	clean mixing equipment before mixing	mixing equipment is cleaned before mixing
C-8.01.03P	determine required quantity of ***refinishing materials***	quantity of ***refinishing materials*** required is determined according to ***factors***
C-8.01.04P	place mixing cup and tare (zero) the scale	mixing cup is placed and scale is tared (zeroed)
C-8.01.05P	select mixing ratio and mixing equipment (stick or cup)	mixing ratio and mixing equipment (stick or cup) are selected according to TDS and ***factors***
C-8.01.06P	select ***products***, reducers, ***additives*** and activators	***products***, reducers, ***additives*** and activators are selected according to ***ambient conditions***, ***factors*** and TDS
C-8.01.07P	pour ***products***, reducers, ***additives*** and activators	***products***, reducers, ***additives*** and activators are poured according to TDS, by weight or by volume
C-8.01.08P	mix ready-to-spray product	ready-to-spray product is mixed according to TDS
C-8.01.09P	strain paint	paint is strained according to TDS

RANGE OF VARIABLES

toners include: metallic, pearls, micas, pigments, dyes

refinishing materials include: waterborne, solvent-based

factors include: size of job, coverage required, paint reduction

products include: toners, clear coats, sealers

additives include: flattening agents, blending agents, accelerators, retarders, solvents, hardeners, adhesion promoters, flex agent

	KNOWLEDGE	
	Learning Outcomes	**Learning Objectives**
C-8.01.01L	demonstrate knowledge of ***refinishing materials*** and their applications	identify types of ***refinishing materials*** and their applications
		identify types of ***refinishing material components*** and their applications
		identify types of ***sealers*** and their applications
		identify types of ***toners*** and their applications
		identify types of ***additives*** and their applications
		identify types of ***topcoats*** and their applications
		identify types of ***clear coats*** and their applications
		identify ***refinishing material characteristics***
C-8.01.02L	demonstrate knowledge of procedures used to mix ***refinishing materials***	describe procedure to use ***refinishing material*** manufacturer software
		identify paint code
		identify ***factors*** to consider when choosing quantity of ***refinishing material***
		calculate required quantity of ***refinishing material***

RANGE OF VARIABLES

refinishing materials include: waterborne, solvent-based

refinishing material components include: binders, resins, talcs, additives, pigments

sealers include: tintable, non-tintable, plastic, transparent, epoxy, polyester, urethane

toners include: metallic, pearls, micas, pigments, dyes

additives include: flattening agents, blending agents, accelerators, retarders, solvents, hardeners, adhesion promoters, flex agent

topcoats include: single-stage, two-stage, multi-coat

clear coats include: nano-technology, scratch-resistant, ceramic, urethane

refinishing material characteristics include: durability, colour, adhesion, gloss, dry time, evaporation rate, viscosity, curing, water-resistance, chemical resistance

factors include: size of job, coverage required, paint reduction

C-8.02 Performs colour adjustments

Essential Skills Digital Technology, Continuous Learning, Numeracy

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

SKILLS

	Performance Criteria	Evidence of Attainment
C-8.02.01P	select variant	variant is selected according to vehicle and job requirements
C-8.02.02P	spray test card	test card is sprayed using spray gun that has been set up to spray vehicle to verify coverage, value, hue and chroma
C-8.02.03P	spray a let-down panel	let-down panel is sprayed to determine number of mid-coats required
C-8.02.04P	visually compare test card against an adjacent clean or polished panel	test card is visually compared against an adjacent cleaned or polished panel in natural light or using colour-corrective lighting
C-8.02.05P	adjust colour formula	colour formula is adjusted for value, hue and chroma to achieve necessary colour in natural light or using colour-corrective lighting
C-8.02.06P	adjust spray gun or spraying technique	spray gun or spraying technique is adjusted as needed to achieve desired result
C-8.02.07P	seek ***technical support*** for challenging and non-existent colour formulas	***technical support*** is sought for challenging and non-existent colour formulas

RANGE OF VARIABLES

technical support includes: OEM, paint manufacturers

	KNOWLEDGE	
	Learning Outcomes	**Learning Objectives**
C-8.02.01L	demonstrate knowledge of performing colour matching	describe ***elements of colour theory***
		describe spray gun techniques and procedures for their setup
		explain procedures for use of spectrophotometer
		explain procedures for use of colour corrective lighting
		describe procedures used to obtain colour formulas
		describe procedures used to adjust colour formula
		describe procedure to create a let-down panel

RANGE OF VARIABLES

elements of colour theory include: value, hue, chroma, colour spectrum, primary and secondary colours, metamerism (role of light in colour perception), face, pitch, flop, metallic, pearls

TASK C-9 Applies refinishing materials

TASK DESCRIPTOR

Automotive refinishing technicians must apply refinishing materials correctly in order to achieve desired colour and finish on vehicle.

C-9.01 Applies sealers

Essential Skills	Document Use, Thinking, Numeracy

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

SKILLS

	Performance Criteria	Evidence of Attainment
C-9.01.01P	check for undercoat ***defects***	undercoat ***defects*** are identified
C-9.01.02P	correct undercoat ***defects***	undercoat ***defects*** are corrected
C-9.01.03P	select and use ***cleaning materials***	***cleaning materials*** are selected and used according to TDS
C-9.01.04P	spray sealer	sealer is sprayed according to TDS and job requirements
C-9.01.05P	blend sealer	sealer is blended to avoid halos and dry edges according to TDS
C-9.01.06P	verify sealer is flashed prior to subsequent application	sealer is verified to ensure it is flashed prior to subsequent application and according to TDS
C-9.01.07P	correct ***defects***	***defects*** are corrected

RANGE OF VARIABLES

defects include: fish-eyes, dry spray, contaminants, runs, scratches, pin holes, orange peel, unsanded surfaces

cleaning materials include: tack cloths, low-static solvents, waterborne cleaners, solvent-borne cleaners, low-lint wipes

KNOWLEDGE

	Learning Outcomes	Learning Objectives
C-9.01.01L	demonstrate knowledge of applying sealers	identify types of ***cleaning materials***
		describe ***topcoat application factors*** as they apply to sealers
		describe the role of sealers in the refinishing process

	describe ***spray techniques***
	describe ***blending techniques***
	identify types of ***defects***
	explain the effect of contaminants and methods of removal
	explain flash-off times
	explain forced drying and forced curing
	explain drying times of materials in relation to de-nibbing

RANGE OF VARIABLES

cleaning materials include: tack cloths, low-static solvents, waterborne cleaners, solvent-borne cleaners, low-lint wipes

topcoat application factors include: spray techniques, spray sequence, tacking between coats, blending

spray techniques include: distance, overlap, gun speed, trigger control, angle

blending techniques include: reverse blending, arcing, trigger control, melting in, blending agents

defects include: fish-eyes, dry spray, contaminants, runs, scratches, pin holes, orange peel, unsanded surfaces

C-9.02 Applies base coat

Essential Skills	Document Use, Thinking, Numeracy

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

SKILLS

	Performance Criteria	Evidence of Attainment
C-9.02.01P	correct undercoat and top coat ***defects***	undercoat and top coat ***defects*** are corrected
C-9.02.02P	select and use ***cleaning materials***	***cleaning materials*** are selected and used according to TDS
C-9.02.03P	spray base coat	base coat is sprayed according to TDS and job requirements
C-9.02.04P	blend base coat	base coat is blended to avoid dry edges and to ensure a uniform transition according to job requirements and TDS
C-9.02.05P	apply drop/orientation coat on metallic and pearl/mica	drop/orientation coat is applied according to job requirements and TDS
C-9.02.06P	spray mid-coat	mid-coat is sprayed according to let-down panel

C-9.02.07P	verify base coat is flashed prior to subsequent application	base coat is verified to ensure it is flashed prior to subsequent application according to TDS
C-9.02.08P	tack or treat surface with anti-static gun between coats	surface is tacked or treated with anti-static gun between coats according to TDS
C-9.02.09P	correct ***defects***	***defects*** are corrected

RANGE OF VARIABLES

defects include: fish-eyes, dry spray, contaminants, runs, orange peel, mottling, halo, striping, poor colour match, hiding

cleaning materials include: tack cloths, low-static solvents, waterborne cleaners, solvent-borne cleaners, low-lint wipes

	KNOWLEDGE	
	Learning Outcomes	**Learning Objectives**
C-9.02.01L	demonstrate knowledge of applying base coats	identify types of ***cleaning materials***
		describe ***topcoat application factors*** as they apply to base coats
		describe the role of base coats in the refinishing process
		describe ***spray techniques***
		describe ***blending techniques***
		describe ***drop/orientation coat techniques***
		identify types of ***defects***
		explain the effect of contaminants and methods of removal
		explain flash-off times
		explain forced drying and forced curing
		explain drying times of materials in relation to de-nibbing

RANGE OF VARIABLES

cleaning materials include: tack cloths, low-static solvents, waterborne cleaners, solvent-borne cleaners, low-lint wipes

topcoat application factors include: spray techniques, spray sequence, tacking between coats, blending

spray techniques include: distance, overlap, gun speed, trigger control, angle

blending techniques include: reverse blending, arcing, trigger control, melting in, blending agents

drop/orientation coat techniques include: arcing, trigger control, speed, temperature, cross patterns, reverse blending, air pressure

defects include: fish-eyes, dry spray, contaminants, runs, orange peel, mottling, halo, striping, poor colour match, hiding

C-9.03 Applies single-stage paint

Essential Skills	Document Use, Thinking, Numeracy

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

SKILLS

	Performance Criteria	Evidence of Attainment
C-9.03.01P	ensure undercoat ***defects*** are corrected	undercoat ***defects*** are corrected
C-9.03.02P	select and use ***cleaning materials***	***cleaning materials*** are selected and used according to TDS
C-9.03.03P	spray single-stage paint	single-stage paint is sprayed according to TDS and job requirements
C-9.03.04P	blend single-stage paint	single-stage paint is blended to avoid dry edges and ensure a uniform transition according to job requirements and TDS
C-9.03.05P	verify single-stage paint is flashed prior to subsequent application	single-stage paint is verified to ensure it is flashed prior to subsequent application according to TDS

RANGE OF VARIABLES

defects include: fish-eyes, dry spray, contaminants, runs, orange peel, mottling, halo, striping, poor colour match, hiding

cleaning materials include: tack cloths, low-static solvents, waterborne cleaners, solvent-borne cleaners, low-lint wipes

KNOWLEDGE

	Learning Outcomes	Learning Objectives
C-9.03.01L	demonstrate knowledge of applying single-stage paint	identify types of ***cleaning materials***
		describe ***topcoat application factors*** as they apply to single-stage paint
		describe the role of single-stage paint in the refinishing process
		describe ***spray techniques***
		describe ***blending techniques***
		identify types of ***defects***
		explain flash-off times
		explain forced drying and forced curing

	explain the effect of contaminants
	identify applications of clear coat over single-stage paint

RANGE OF VARIABLES

cleaning materials include: tack cloths, low-static solvents, waterborne cleaners, solvent-borne cleaners, low-lint wipes

topcoat application factors include: spray techniques, spray sequence, blending

spray techniques include: distance, overlap, gun speed, trigger control, angle

blending techniques include: reverse blending, arcing, trigger control, melting in, blending agents

defects include: fish-eyes, dry spray, contaminants, runs, orange peel, mottling, halo, striping, poor colour match, hiding

C-9.04 Applies clear coat

Essential Skills	Document Use, Thinking, Numeracy

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

SKILLS

	Performance Criteria	Evidence of Attainment
C-9.04.01P	ensure topcoat ***defects*** are corrected	topcoat ***defects*** are corrected
C-9.04.02P	spray clear coat	clear coat is sprayed according to TDS and job requirements
C-9.04.03P	blend clear coat	clear coat is blended to a uniform texture according to TDS
C-9.04.04P	verify clear coat is flashed prior to subsequent application	clear coat is verified to ensure it is flashed prior to subsequent application according to TDS
C-9.04.05P	correct ***defects***	***defects*** are corrected

RANGE OF VARIABLES

defects include: fish-eyes, dry spray, contaminants (hair, bugs, dirt, water), runs, orange peel

KNOWLEDGE

	Learning Outcomes	Learning Objectives
C-9.04.01L	demonstrate knowledge of applying clear coat	describe ***topcoat application factors*** as they apply to clear coat
		describe the role of clear coats in the refinishing process

	describe ***spray techniques***
	describe ***blending techniques***
	identify types of ***defects***
	explain the effect of contaminants
	explain flash-off times
	explain forced drying and forced curing
	explain drying times of materials in relation to de-nibbing

RANGE OF VARIABLES

topcoat application factors include: spray techniques, spray sequence, blending
spray techniques include: distance, overlap, gun speed, trigger control, angle, air pressure
blending techniques include: arcing, trigger control, melting in, blending agents
defects include: fish-eyes, dry spray, contaminants (hair, bugs, dirt, water), runs, orange peel

TASK C-10 Performs post-refinishing functions

TASK DESCRIPTOR

Automotive refinishing technicians inspect vehicles after the refinishing process. They are responsible for removing all masking materials, correcting imperfections, and verifying the quality and completion of the refinish work.

C-10.01 Removes masking materials

Essential Skills	Thinking, Working with Others, Oral Communication

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

	SKILLS	
	Performance Criteria	**Evidence of Attainment**
C-10.01.01P	select ***removal procedures***	***removal procedures*** are selected according to ***masking materials*** and ***masking technique***
C-10.01.02P	remove masking plastic, paper and tape	masking plastic, paper and tape are removed according to job requirements to prevent damaging refinished and existing surfaces

C-10.01.03P	remove spray mask	spray mask is removed by washing with soap and water
C-10.01.04P	inspect for ***masking issues***	***masking issues*** are identified visually and ***corrective actions*** are determined

RANGE OF VARIABLES

removal procedures include: timing of removal, removal tools

masking materials include: tapes, paper, plastics, trim-mask, foam tape, spray mask

masking techniques include: perimeter masking, back masking, reverse masking, tunnel masking, two-tone masking

masking issues include: bridging, under-masking, over-masking, over spray, glue residue

corrective actions include: re-application, polishing, use of solvents, use of glass cleaner, use of blades, application of detail products

KNOWLEDGE

	Learning Outcomes	Learning Objectives
C-10.01.01L	demonstrate knowledge of removing ***masking materials***	identify types of ***masking materials*** and describe their applications
		describe procedures used to remove ***masking materials***
C-10.01.02L	demonstrate knowledge of ***masking issues***	identify ***masking issues*** and their corresponding ***corrective actions***

RANGE OF VARIABLES

masking materials include: tapes, paper, plastics, trim-mask, foam tape, spray mask

masking issues include: bridging, under-masking, over-masking, over spray, glue residue

corrective actions include: re-application, polishing, use of solvents, use of glass cleaner, use of blades, application of detail products

C-10.02 Corrects surface imperfections

Essential Skills	Document Use, Thinking, Working with Others

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

SKILLS

	Performance Criteria	Evidence of Attainment
C-10.02.01P	identify surface ***imperfections***	***imperfections*** are identified visually and by touch
C-10.02.02P	determine ***corrective actions***	***corrective actions*** are determined according to ***imperfections***

C-10.02.03P	sand or de-nib refinish area	refinish area is sanded or de-nibbed according to ***imperfections***
C-10.02.04P	compound refinish area	refinish area is compounded according to ***imperfections***
C-10.02.05P	polish refinish area	refinish area is polished to restore lustre and to match existing finish

RANGE OF VARIABLES

imperfections include: sags, fish-eyes, solvent popping, runs, orange peel, dust nibs, dry spray, dieback, sinking, top-coat bridging, contour mapping, bleeding, colour mismatch, mottling, transparency, gloss mismatch, texture mismatch

corrective actions include: re-application, polishing, use of blades, sanding

	KNOWLEDGE	
	Learning Outcomes	**Learning Objectives**
C-10.02.01L	demonstrate knowledge of surface ***imperfections***	identify types of surface ***imperfections***
C-10.02.02L	demonstrate knowledge of the ***corrective action*** of various surface ***imperfections***	identify the ***corrective action*** to remedy various surface ***imperfections***
		identify limitations of repair based on coating type
		describe procedures used to sand when correcting surface ***imperfections***
		describe procedures used to compound when correcting surface ***imperfections***
		describe procedures used to polish when correcting surface ***imperfections***
C-10.02.03L	demonstrate knowledge of the ***causes*** of various surface ***imperfections***	identify the ***causes*** of various surface ***imperfections***

RANGE OF VARIABLES

imperfections include: sags, fish-eyes, solvent popping, runs, orange peel, dust nibs, dry spray, dieback, sinking, top-coat bridging, contour mapping, bleeding, colour mismatch, mottling, transparency, gloss mismatch, texture mismatch

corrective actions include: re-application, polishing, use of blades, sanding

causes include: contamination, poor spray technique, improper mixing procedures, inter-mixing of products, expired product, poor equipment, poor booth conditions, incorrect prepping procedures, environmental

C-10.03 Performs final check

Essential Skills	Document Use, Writing, Working with Others

NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
NV	NV	NV	NV	NV	yes	yes	yes	yes	yes	NV	NV	NV

SKILLS

	Performance Criteria	Evidence of Attainment
C-10.03.01P	confirm colour	applied colour is consistent with non-repaired area
C-10.03.02P	check blend area	blend area is not noticeable
C-10.03.03P	complete ***job pre-delivery checklist***	***job pre-delivery checklist*** is completed as per job requirements
C-10.03.04P	complete repair order (work order) or estimate	repair order (work order) or estimate is completed as per job requirements
C-10.03.05P	complete job-specific documentation	documentation specific to refinish job is completed for future reference

RANGE OF VARIABLES

job pre-delivery checklist includes: colour match, blend areas, compound/polish residue, overspray, paint imperfections, tape residue

KNOWLEDGE

	Learning Outcomes	Learning Objectives
C-10.03.01L	demonstrate knowledge of performing final check	interpret repair order (work order) or estimate to determine completeness of work
		follow ***job pre-delivery checklist*** to verify quality of work
		describe procedures used to visually inspect refinished vehicle or component

RANGE OF VARIABLES

job pre-delivery checklist includes: colour match, blend areas, compound/polish residue, overspray, paint imperfections, tape residue

APPENDIX A
ACRONYMS

EV	electric vehicle
HVLP	high volume low pressure
LVLP	low volume low pressure
OEM	original equipment manufacturer
OH&S	Occupational Health and Safety
PPE	personal protective equipment
RP	reduced pressure
SDS	safety data sheet
TDS	technical data sheet
UV	ultraviolet
VIN	vehicle identification number
VOC	volatile organic compound
WHMIS	Workplace Hazardous Materials Information System
WIP	work in progress

APPENDIX B

TOOLS AND EQUIPMENT / OUTILS ET ÉQUIPEMENT

Standard Tool Kit / Trousse d'outils standard

air-powered tools	outils pneumatiques
air pressure gauge	manomètres à air comprimé
blow gun	soufflettes
de-nibbing file	limes pointues servant à enlever les aspérités
mixing board	plateaux de mélange
rotary tools (eraser/wire wheels)	outils rotatifs (roues à effacer, brosses métalliques circulaires)
putty knives	couteaux à mastic
rubber squeegee	racloirs en caoutchouc
sanding blocks	blocs de ponçage
sanding boards	planches à poncer
scuff pads	tampons de ponçage léger
screwdrivers	tournevis
socket set	jeux de douilles
spray bottles	flacons pulvérisateurs
spray gun tools	outils pour pistolets pulvérisateurs
spreaders	raclettes
tape measure	rubans à mesurer
thermometers	thermomètres
timers	minuteries
work light	lampes baladeuses
tweezers	brucelles (petites pinces)
wrenches	clés

Personal Protective Equipment (PPE) and Safety Equipment / Équipement de protection individuelle (EPI) et équipement de sécurité

disposal containers	contenants de déchets
dust extraction equipment	équipement de dépoussiérage
eye wash stations	douches oculaires
fire extinguishers	extincteurs
first aid kits	trousses de premiers soins
gloves (work, rubber, nitrile)	gants (de travail, en caoutchouc, en nitrile)
hearing protection	protecteurs d'oreilles

paint suit	combinaisons de peinture
particulate masks	masques antipoussière
protective eyewear	lunettes de protection
respirator (air purifying)	respirateurs (purificateur d’air)
respirator (air supplied)	respirateurs (adduction d’air)
safety footwear	chaussures de protection
showers	douches
spill kits	trousses de déversement

Refinishing Equipment / Équipement de finition

anti-static devices	dispositifs antistatiques
colour chips	échantillons de couleur
colour corrective bulbs	ampoules correctrices chromatiques
computer and software	ordinateurs et logiciels
curing lamps	lampes de durcissement
digital scales	balances numériques
disposable paint gun pods/cups	godets ou contenants jetables pour pistolets à peinture
film thickness gauge (wet and dry)	jauge d’épaisseur de feuil (humide ou sec)
fresh air supply pump	pompes d'alimentation en air frais
ground cable	fils de masse
gun washing system	systèmes de lavage de pistolet
heat lamps	lampes infrarouges
hygrometer	hygromètres
liquid mask	liquides à masquer
measuring sticks	bâtons gradués
mixing cups	godets de mélange
mixing machine	machines à mélanger
mixing room	salle de mélange
mixing scales	balances pour mélange de peinture
mixing sticks	bâtons à mélanger
natural light gun	pistolets lumière naturelle
nitrogen spray system	systèmes de pulvérisation d’azote
paint shaker	agitateurs de peinture
paint strainers	filtres à peinture
prep station	postes de préparation
sander (dual action, orbital)	ponceuses (à double action, orbitale)
spectrophotometer	spectrophotomètres
spray booth	cabines de pulvérisation
spray guns (electrostatic, reduced pressure [RP], high volume low pressure [HVLP], low volume low pressure [LVLP], gravity feed, pressure pot, suction	pistolets pulvérisateurs (électrostatiques, à pression réduite, HVBP, BVBP, à alimentation par gravité, avec réservoir sous pression, à aspiration,

feed, touch-up, gravel guard)	pour retouches, pour revêtements de protection)
spray-out cards	cartes de pulvérisation
ultraviolet and infrared lamps	lampes ultraviolettes et infrarouges
variant decks	nuanciers des variantes
venturi blower	ventilateurs à effet Venturi
viscosity cups	godets de viscosimètre

Post-refinishing and Cleaning Equipment / Équipement d'après finition et de nettoyage

abrasive pad	tampons abrasifs
buffer pad	tampons de polissage
buffer/polisher	polisseuses
clay blocks	barres d'argile
cleaning brush	brosses de nettoyage
cleaning cloths	torchons
cleaning solutions	solutions de nettoyage
de-nibbing file	limes pointues servant à enlever les aspérités
illuminated magnifying glass	loupes éclairantes
razor blades	lames de rasoir
razor blade holder	porte-lames de rasoir
spray bottles	flacons pulvérisateurs
tack cloths	chiffons à dépoussiérer

Shop Equipment / Équipement d'atelier

air compressor	compresseurs d'air
air dryers	sécheurs d'air
air hoses	boyaux d'air
air makeup system	systèmes d'aération
air transformer	épurateurs d'air
battery charger/booster pack	chargeurs de batterie et batteries d'appoint
brooms	balais
bumper (parts, stands)	pare-chocs (pièces, pieds)
caulking gun (manual, air)	pistolets à calfeutrer (manuel, pneumatique)
digital devices (tablets, smartphones)	dispositifs numériques (tablettes, téléphones intelligents)
floor jack	crics rouleurs
floor squeegees	racloirs de plancher
hangers	supports
hoist	élévateurs
manometer	manomètres
masking cart	chariots servant au masquage
media blasting equipment	équipement de décapage par projection d'abrasifs

moisture traps	dispositifs d’emprisonnement de l’humidité
portable prep station	postes de préparation portatifs
portable work station	postes de travail portatifs
pressure washers	laveuses à pression
regulators/transformers	régulateurs et transformateurs
safety stands	chandelles
solvent recycler	recycleurs de solvants
stands	pieds
step benches	escabeaux
telephone	téléphones
vacuum (vac assist)	aspirateurs

APPENDIX C
GLOSSARY / GLOSSAIRE

abrasive	a substance used to wear away a surface by friction	**abrasif**	matière qui use une surface par frottement
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.	**adhérence**	force de liaison entre deux matériaux ; lorsqu'une couche de peinture adhère à une autre couche, il s'agit d'une adhérence intercouche ; la résine époxydique présente une bonne adhérence à la plupart des surfaces
back mask	technique of reverse rolling the tape or masking paper to prevent a hard line in any refinished operation	**masquage à l'envers**	technique de masquage inversée qui consiste à appliquer du papier-cache sur du ruban-cache pour empêcher la formation d'une ligne de démarcation sur les surfaces finies
base coat	a colour coat applied over primer surfacer or sealer or existing finishes; must be protected by a clear coat	**couche de base**	couche de couleur appliquée sur un apprêt de surface, sur un scellant ou sur une couche de finition, et qui doit être protégée par une couche de vernis
blending	a) the stepping out of each coat of colour resulting in a gradual transition from the applied coat to the original coat b) the technique of chemically transitioning an applied clear coat into an existing clear coat	**fusionnement**	a) passage graduel d'une teinte à une autre qui donne lieu à une transition graduelle de la couche appliquée à la couche initiale b) procédé qui consiste à assurer chimiquement la transition d'une couche de vernis à la couche initiale
chroma	the strength or intensity of a colour	**saturation de la couleur**	intensité d'une couleur
clear coat	coat that provides gloss and protectant for the base coat	**couche de vernis**	revêtement qui assure un lustre et une protection pour la couche de base
contaminants	foreign substances on the surface to be painted (in the paint or air-borne) that would adversely affect the finish	**contaminants**	corps étrangers sur la surface à peindre (provenant de l'air ou de la peinture) qui auront un effet néfaste sur la finition
coverage	a) the area a given amount of paint will cover b) the point at which the freshly applied paint fully hides the substrate	**surface couverte**	a) surface qui peut être couverte par une certaine quantité de peinture b) moment auquel la peinture fraîchement appliquée couvre complètement le substrat

cure	the process of evaporation, oxidation and polymerization. These processes can be sped up with the use of heat and fast moving air	**durcissement**	processus d'évaporation, d'oxydation et de polymérisation qui peut être accéléré avec la chaleur ou le vent
de-nibbing	removing nibs (small high spots caused by embedded contaminants) on a paint surface	**enlèvement des aspérités**	enlèvement de petites saillies causées par des contaminants incrustés sur une surface de peinture
drop/orientation coat	method of application to assist the orientation of metallics and pearls; also called effect coat or control coat	**voile de placement**	méthode d'application qui uniformise les couleurs métalliques et nacrées, appelée également couche à effet ou couche de contrôle
dry spray	the result of product being applied in a manner that does not allow it to wet out or flow. Dry spray appears as a rough texture on the substrate	**pulvérisation sèche**	texture rugueuse sur le substrat obtenue lorsque le produit pulvérisé ne couvre pas entièrement la surface à peindre ou lorsque le débit du pistolet pulvérisateur est insuffisant
drying time	the time it takes for an applied product to reach a specific point in the curing process, for example flash time, tack free time, dust free time and handling time	**temps de séchage**	temps qu'il faut pour qu'un produit appliqué arrive à un point précis au cours du processus de durcissement, par exemple le temps d'évaporation, le temps que prend le produit pour être sec au toucher, le temps qu'il prend pour que la poussière n'y adhère plus et le temps de traitement
epoxy	a class of resins characterized by good chemical resistance; a film made from epoxy resins is extremely durable and solvent resistant	**résine époxydique**	catégorie de résines caractérisées par une bonne résistance aux produits chimiques ; un feuil en résine époxydique est extrêmement durable et résistant aux solvants
finish	the appearance and quality of the dry final coat	**fini**	aspect, texture de la dernière couche appliquée et séchée
fish-eyes	blemishes in the finish coat usually of a circular or crater-like and opalescent character caused by contamination	**yeux de poisson**	défauts opalescents généralement circulaires ou en forme de cratère dans la couche de finition causés par la contamination de la surface
flash-off time	the first stage of drying where some of the solvents evaporate	**temps d'évaporation**	première étape du séchage qui correspond à l'évaporation d'une partie des solvants
guide coat	applied coat of contrasting colour to identify surface imperfections when sanding	**couche guide**	couche de couleur contrastante appliquée pour mettre en relief les imperfections de la surface au moment du ponçage
hue	the name of a colour; the property of a colour by which it can be distinguished; red, blue, yellow, etc.	**teinte**	désignation d'une couleur ; caractéristique d'une couleur qui la distingue des autres ; rouge, bleu, jaune, etc.

let-down panel	panel created to determine different shades of the same colour	**panneau de comparaison**	panneau créé pour différencier les nuances d'une même couleur
lustre	the appearance of depth as obtained by multiple coats	**lustre**	impression de profondeur obtenue en appliquant plusieurs couches d'un produit
masking	using tape, paper and plastic to protect an area that will not be painted or sanded	**masquage**	utilisation de ruban-cache, de papier-cache et de pellicule de plastique pour protéger les zones qui ne seront ni peintes ni poncées
media blasting	removal of topcoat using various materials such as sand, soda and plastic beads	**décapage par projection d'abrasifs**	opération qui consiste à enlever la couche de finition avec divers matériaux comme le sable, le soda et les billes de plastique
melting in	blending technique used to achieve a uniform transition	**fondu**	technique de fusionnement utilisée pour parvenir à une transition uniforme
metallic	aluminium flakes that have light reflective properties	**métallique**	particules d'aluminium qui ont des propriétés réfléchissantes
metamerism	a term used to describe a colour shift when viewed under different light sources	**métamérisme**	phénomène selon lequel des couleurs semblent différentes lorsqu'elles sont observées sous différentes sources de lumière
mil thickness	the thickness of a coating measured in mils	**épaisseur du feuil**	épaisseur d'un revêtement en mils
mottling	irregular grouping of metallic particles in a topcoat	**marbrure**	groupement irrégulier de particules métalliques dans une couche de finition
nanotechnology	the manipulation of matter on an atomic and molecular scale; used in the fabrication of macro scale products	**nanotechnologie**	manipulation de matière à l'échelle atomique et moléculaire utilisée dans la fabrication de produits à l'échelle macroscopique
orange peel	a film that has the physical appearance of an orange peel, caused by improper spray application	**peau d'orange**	défectuosité d'un feuil qui a l'apparence d'une peau d'orange, imputable à une mauvaise application avec le pistolet pulvérisateur
overspray	paint that falls on the area next to the one being painted	**surpulvérisation**	peinture qui tombe dans la zone voisine de celle qui doit être peinte
pearl/mica	coloured mineral or glass flakes that have iridescent properties	**nacre et mica**	minéraux colorés ou paillettes de verre qui possèdent des propriétés iridescentes
primer	an undercoat applied to surface to promote adhesion of the primer surfacer or sealer to substrate and to prevent corrosion	**apprêt**	sous-couche appliquée sur une surface pour assurer l'adhérence de l'apprêt de surface ou du scellant au substrat et pour empêcher la corrosion

primer surfacer	a high-solids primer that fills small imperfections in the substrate and usually must be sanded	**apprêt de surface**	apprêt à teneur élevée en matières solides qui corrige les petites imperfections dans le substrat et qui doit en général être poncé
respirator	a device worn to filter contaminated air; positive pressure fresh air respirators deliver breathable air	**respirateur**	masque qui filtre l'air contaminé; un respirateur à adduction d'air frais et à pression positive fournit de l'oxygène
reverse blending	blending technique done from the outside in, used to control overspray	**étalement inversé**	technique de fusionnement effectuée de l'extérieur vers l'intérieur et utilisée pour contrôler la surpulvérisation
runs	a blemish due to excessive paint flow usually caused by improper consistency of paint or heavy application	**formation de gouttes**	imperfection habituellement causée par une consistance inadéquate de la peinture ou par l'application d'une trop grande quantité de peinture
sags	state of applied paint before running	**coulures**	état de la peinture appliquée avant la formation de gouttes
sealer	a coating which improves adhesion and colour uniformity of the topcoat	**scellant**	couche qui améliore l'adhésion et l'uniformité de la couleur de la couche de finition
solvent	the component of a solution which dissolves other components and facilitates the drying process	**solvant**	composant d'une solution qui en dissout les autres, facilitant ainsi le séchage
spectrophotometer	an electronic device used for recording and measuring colour	**spectrophotomètre**	dispositif électronique qui sert à enregistrer et à mesurer la couleur
spray gun	a tool that uses air pressure to atomize liquids and transfer them uniformly to a surface	**pistolet pulvérisateur**	outil qui fait appel à la pression de l'air pour pulvériser des liquides uniformément sur une surface
substrate	the surface that is to be finished; it can be anything from an old finish or primer to an unpainted surface	**substrat**	surface à finir; il peut s'agir d'un ancien fini, d'un apprêt ou d'une surface non peinte
tack cloth	a cloth that is tacky, used to pick up dust and lint from the surface to be painted	**chiffon à dépoussiérer**	tissu collant qui sert à enlever la poussière et les charpies de la surface à peindre
technical data sheet (TDS)	written instructions on details of paint applications, types of products to be used, areas to be painted and painting procedure	**fiche technique**	instructions écrites relatives aux applications de la peinture, aux types de produits à utiliser, aux zones à peindre et au procédé de peinture
three-stage (tri-coat)	paint application that consists of distinct paint layers that produces a pearlescent appearance: a base coat, a tinted midcoat and clear coat.	**couche de finition en trois étapes**	système composé de trois couches distinctes de peinture qui produit un aspect nacré : une couche de base, une couche intermédiaire teintée et une couche de vernis
tint	to adjust by adding colour to another colour	**nuancer**	ajout d'une couleur dans une autre pour que cette dernière ait la teinte désirée

topcoat	the last coat of colour, sealer or clear coat	**couche de finition**	dernière couche de couleur, de scellant ou de vernis
two-stage	consists of two distinct layers of paint: base coat and clear coat	**en deux étapes**	deux couches de peinture : couche de base et couche de vernis
undercoat	a first coat: primer, primer surfacer or sealer	**sous-couche**	première couche : apprêt, apprêt de surface ou enduit
value	the lightness/darkness of a colour, referencing the greyscale	**valeur**	luminosité ou obscurité d'une couleur, basée sur l'échelle de gris
viscosity	a liquid's ability to resist flow	**viscosité**	consistance ou corps d'un liquide
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	**godet de viscosimètre**	dispositif qui permet de mesurer la viscosité d'un liquide en déterminant le temps qu'il prend à passer dans l'ouverture de la coupe
volatile	capable of evaporating easily	**volatil**	caractéristique de ce qui s'évapore facilement
Volatile Organic Compound (VOC)	carbon-containing gases and vapors having direct toxic effects on humans, ranging from carcinogenesis to neurotoxicity, and on the environment	**composés organiques volatils (COV)**	gaz et vapeurs qui contiennent du carbone et qui ont des effets toxiques directs sur les êtres humains, variant de la carcinogenèse à la neurotoxicité, et sur l'environnement
waterborne paint	a type of paint in which a special de-ionized, purified water is used as the carrier instead of a reducer solvent	**peinture à base d'eau**	type de peinture dans lequel une eau spéciale désionisée et purifiée est utilisée comme véhicule au lieu d'un solvant