Auto Body and Collision Technician

Course Outline

2023-24

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Saskatchewan Apprenticeship and Trade Certification Commission

TRAINING PROFILE CHART

This Training Profile Chart represents Saskatchewan Apprenticeship and Trade Certification Commission (SATCC) technical training at the topic level.

Level One (Harmonized)	Transcript Code	Hours
Trade Mathematics	MATH 131 – Theory	12
Metal Repair	METL 122 – Theory	20
	METL 123 – Shop	36
Refinishing	PNTG 122 – Theory	24
	PNTG 123 – Shop	32
Vehicle Body Trim Repair	VEHC 122 – Theory	24
	VEHC 123 – Shop	32
		180

Level Two (Harmonized)	Transcript Code	Hours
Refinishing	PNTG 222 – Theory	20
	PNTG 223 – Shop	40
Vehicle Body Trim Repair	VEHC 222 – Theory	23
	VEHC 223 – Shop	47
Welding	WELD 230 – Theory	15
	WELD 231 – Shop	35
		180

Level Three (Harmonized)	Transcript Code	Hours
Frames	ATBD 320 – Theory	15
	ATBD 321 – Shop	45
Metal Repair	METL 320 – Theory	30
	METL 321 – Shop	60
Refinishing	PNTG 320 – Theory	15
	PNTG 321 – Shop	45
		210

Level Four	Transcript Code	Hours
Wheel Alignment	ATBD 420 – Theory	15
	ATBD 421 – Shop	15
Metal Repair	METL 420 – Theory	30
	METL 421 – Shop	90
Refinishing	PNTG 420 – Theory	15
	PNTG 421 – Shop	45
		210

TECHNICAL TRAINING COURSE OUTLINE

This chart outlines the model for Saskatchewan Apprenticeship and Trade Certification Commission (SATCC) technical training sequencing. For the harmonized level of training, a cross reference to the Red Seal Occupational Standard (RSOS) apprenticeship technical training sequencing, at the learning outcome level, is provided.

Implementation for harmonization will take place progressively. Level one to be implemented in 2020/2021, level two in 2021/2022, level three in 2022/2023, and level four in 2023/2024.

Level One — 6 weeks — 180 hours

Trade Mathematics — 12 hours

- use basic mathematics
- use basic algebra
- use metric system and formulas

RSOS topics covered in this section of training:

This section of training exceeds RSOS scope of work in Level One and exceeds the minimum sequencing as set out in the Auto Body and Collision Technician RSOS. Its purpose is to assist in the understanding of the Auto Body and Collision Technician trade (i.e. mixing ratios of chemicals.)

Metal Repair – Theory — 20 hours

- discuss auto body hand and power tools
- identify metal shaping procedures
- discuss metal preparation procedures
- describe minor dent repair procedures
- describe application and finishing procedures of fillers
- describe oxy-acetylene cutting and heating procedures
- describe plasma cutting procedures
- describe trade-related documents

Metal Repair – Shop — 36 hours

- demonstrate knowledge of trade terminology
- use auto body hand tools
- use auto body power tools
- demonstrate metal working procedures
- perform the application and finish filler process
- use oxy-acetylene equipment
- use plasma arc

Refinishing – Theory — 24 hours

- describe preparation of panel to be painted
- identify methods of stripping paint
- describe undercoat application procedures
- identify primer sealers
- describe spray equipment
- describe paint mixing procedures

- explain paint application procedures
- describe procedures for paint defect correction
- describe air supply systems
- describe vehicle detailing procedures

Refinishing – Shop **32 hours**

- prepare panel to be painted
- strip painted panel
- apply undercoats
- apply primer sealers
- clean and maintain spray equipment
- mix paint
- apply paint to a panel
- correct paint defects
- service air supply systems
- perform an interior and exterior vehicle clean up

Vehicle Body Trim Repair – Theory **24 hours**

- discuss personal and shop safety
- discuss electrical systems
- identify fastening devices
- describe body trim and mouldings
- identify passenger restraint systems
- describe plastic repair
- describe body panel replacement and alignment

Vehicle Body Trim Repair – Shop **32 hours**

- repair electrical systems
- replace vehicle trim components
- repair plastic components
- replace body panels and associated trim

Level Two — 6 weeks — 180 hours

Refinishing – Theory — **20 hours**

- describe preparation procedures for a blend repair
- discuss colour matching procedures
- describe painting procedures for a blend repair
- identify plastic parts refinishing procedures
- explain decal removal and installation methods

Refinishing – Shop — **40 hours**

- perform blend panel preparation techniques
- perform colour matching procedure
- perform paint blending procedures
- paint projects

Vehicle Body Trim Repair – Theory — **23 hours**

- describe metal panel collision repair procedures
- describe procedures to repair weakened and damaged metal panels
- describe plastic panel repair procedures
- describe structural glass replacement procedures
- describe the removal and installation process of vehicle door components
- discuss electrical system components and protection procedures

Vehicle Body Trim Repair – Shop — **47 hours**

- repair metal panels.
- repair plastic panels
- replace structural glass
- perform removal and installation of vehicle door components
- perform basic electrical repairs

Welding – Theory — **15 hours**

- discuss safe working procedures
- identify metals
- describe GMAW procedures
- describe resistance spot welding

Welding – Shop — **35 hours**

- demonstrate safe working procedures
- use GMAW welding equipment
- use STRSW equipment

Level Three — 7 weeks — 210 hours

Frames – Theory — **15 hours**

- describe types of automobile construction
- identify effects of collision forces
- identify high strength steel components
- identify hydro-formed components
- describe stress relieving
- determine the extent of impact damage.
- explain the use of measuring systems
- explain straightening techniques

Frames – Shop — **45 hours**

- confirm the extent of damage
- use measuring systems
- assemble a complete plan of repair
- perform straightening techniques

Metal Repair – Theory — **30 hours**

- describe structural parts replacement and sectioning procedures
- identify damaged air conditioning components
- identify damaged mechanical heating and cooling components
- identify SRS systems and components
- explain electrical troubleshooting procedures
- explain a complete vehicle inspection
- identify hybrid repair safety procedures

Metal Repair – Shop — **60 hours**

- use structural parts replacement and sectioning procedures
- replace damaged air conditioning components
- replace damaged mechanical heating and cooling system components
- demonstrate electrical troubleshooting procedures
- perform a complete vehicle inspection

Refinishing – Theory — **15 hours**

- discuss multi-coat refinishing

Refinishing – Shop — **45 hours**

- prepare multi-coat panels
- finish multi-coat panels
- refinish student projects

Level Four — 7 weeks — 210 hours

Wheel Alignment – Theory — **15 hours**

- identify suspension components
- identify steering components
- identify wheel alignment angles
- identify theoretical and practical mentoring techniques

Wheel Alignment – Shop — **15 hours**

- perform a computerized four-wheel alignment
- replace suspension and steering parts as required

Metal Repair – Theory — **30 hours**

- explain estimate essentials and flat rate operations
- describe a computerized damage report
- describe rollover damage repair procedures
- explain roof replacement procedures
- explain aluminum repair procedures
- explain electrical system diagnostic procedures
- identify hybrid repair safety procedures

Metal Repair – Shop — **90 hours**

- prepare a computerized damage report
- perform pulling and alignment procedures
- perform structural panel replacement
- perform aluminum welds
- troubleshoot vehicle electrical problems

Refinishing – Theory — **15 hours**

- discuss multi-coat colour matching and blending procedures
- discuss automotive refinishing

Refinishing – Shop — **45 hours**

- perform the preparation and refinishing of multi-coat panels
- perform the preparation and refinishing of the project vehicle

AUTO BODY AND COLLISION TECHNICIAN
TASK MATRIX

This chart outlines the major work activities, tasks and sub-tasks from the 2018 Auto Body and Collision Technician Red Seal Occupational Standard. Each sub-task details the corresponding essential skill and level of training where the content is covered. *

* Sub Tasks with numbers in the boxes is where the content will be delivered in training. The Task Matrix Chart will be updated every year until Harmonization implementation is complete. Implementation for harmonization will take place progressively. Level one to be implemented in 2020/2021, level two in 2021/2022, level three in 2022/2023, and level four in 2023/2024.

A – Performs common occupational skills

Task A-1 Performs safety-related functions	**1.01 Maintains safe work environment** **1 (2, 3 in context)**	**1.02 Uses personal protective equipment (PPE) and safety equipment** **1 (2, 3 in context)**			
Task A-2 Uses and maintains tools and equipment	**2.01 Maintains hand and power tools** **1**	**2.02 Maintains frame and unibody repair and measuring equipment** **3,4**	**2.03 Uses lifting equipment** **1, 2**	**2.04 Uses diagnostic equipment** **3,4**	**2.05 Maintains refinishing tools and equipment** **1, 2**
Task A-3 Uses and Maintains welding equipment	**3.01 Uses welding equipment** **1, 2, 3,4**	**3.02 Maintains welding equipment** **1, 2, 3,4**			
Task A-4 Organizes work and uses documentation	**4.01 Prepares estimates and supplements** **3,4**	**4.02 Prepares repair plan** **2**	**4.03 Organizes parts, materials and work area** **1, 2**	**4.04 Uses documentation** **1, 2, 3,4**	

Task A-5 Uses communication and mentoring techniques	5.01 Uses communication techniques 1 (2, 3 in context)	5.02 Uses mentoring techniques
Task A-6 Removes and installs trim and hardware	6.01 Removes trim and hardware 1	6.02 Installs trim and hardware 1
Task A-7 Performs final inspections	7.01 Performs final operational check 3	7.02 Performs final quality control inspection 4
Task A-8 Applies corrosion protection and sound deadening materials	8.01 Applies corrosion inhibitors and undercoats 2	8.02 Applies seam sealers and sound deadeners 2

B – Repairs frame and structural components

Task B-9 Prepares for repair and replacement of structural components	9.01 Identifies extent of damage 3	9.02 Removes components for access 3	9.03 Performs vehicle setup 3
Task B-10 Repairs, removes and installs structural components	10.01 Repairs structural components 3,4	10.02 Removes structural components 3,4	10.03 Installs structural components 3,4

Task B-11 Removes, installs and repairs structural and laminated glass	**11.01 Removes structural glass** **2** **(3 in context)**	**11.02 Installs structural glass** **2** **(3 in context)**	**11.03 Repairs laminated glass** **2** **(3 in context)**

C – Repairs non-structural outer body panels and related components

Task C-12 Removes, repairs and installs metal panels and components	**12.01 Prepares metal panels and components for repair** **1**	**12.02 Removes metal panels and components** **1**	**12.03 Repairs metal panels and components** **1,2**	**12.04 Installs metal panels and components** **1**
Task C-13 Removes, repairs and installs plastic and composite panels and components	**13.01 Prepares plastic and composite panels and components for repair** **1, 2**	**13.02 Removes plastic and composite panels and components** **1, 2**	**13.03 Repairs plastic and composite panels and components** **1, 2**	**13.04 Installs plastic and composite panels and components** **1, 2**
Task C-14 Removes and installs non-structural glass	**14.01 Removes non-structural glass** **2** **(3 in context)**	**14.02 Installs non-structural glass** **2** **(3 in context)**		

D – Repairs mechanical, electrical and alternative-fuel system components

Task D-15 Deactivates and reactivates alternative-fuel systems	**15.01 Deactivates alternative-fuel systems** **3**	**15.02 Reactivates alternative-fuel systems** **3**

Task D-16 Removes and installs non-structural glass	16.01 Removes mechanical components 3,4	16.02 Installs mechanical components 3,4		
Task D-17 Removes, repairs and installs electrical and electronic components	17.01 Removes electrical components 3	17.02 Repairs damaged wires and protective coverings 3	17.03 Installs electrical components 3	17.04 Services advanced electronic components 3,4

E – Repairs interior components and services restraint systems

Task E- Repairs and replaces interior components	18.01 Repairs interior components 2	18.02 Replaces interior components 2
Task E-19 Services supplemental restraint systems (SRS)	19.01 Services seat belt restraint systems 3	19.02 Services air bags and related components 3

F – Performs refinishing procedures

Task F-20 Prepares surface	20.01 Performs initial preparation 1	20.02 Masks surface 1	20.03 Strips surface 1	20.04 Sands surface 1

Task F-21Uses repair materials	21.01 Mixes repair materials 1	21.02 Applies repair materials 1		
Task F-22 Prepares refinishing equipment	22.01 Prepares spray booth 1, 2	22.02 Performs spray gun setup 1, 2		
Task F-23 Prepares refinishing materials	23.01 Mixes refinishing materials 1, 2, 3	23.02 Performs colour adjustments 2, 3		
Task F-24 Applies refinishing materials	24.01 Applies sealers 1, 2	24.02 Applies base coat 1, 2	24.03 Applies single-stage paint 1, 2	24.04 Applies clear coat 1, 2
Task F-25 Prepares post-refinishing functions	25.01 Removes masking materials 1	25.02 Corrects surface imperfections 2		

G – Performs detailing and cleaning

Task G-26 Details exterior	26.01 Removes minor imperfections 1	26.02 Polishes vehicle 1	26.03 Touches up stone chips 1
Task G27-Cleans vehicle	27.01 Cleans exterior 1	27.02 Cleans interior 1	

***The Auto Body and Collision Technician Red Seal Occupational Standard (RSOS), describing the "full scope" of the trade, can be found at** www.red-seal.ca.*

***For more detailed information on course content, please refer to the Auto Body and Collision Technician Guide to Course Content at** www.saskapprenticeship.ca.*