



Auto Body and Collision Technician

Guide to Course Content

Online: www.saskapprenticeship.ca

Recognition:

To promote transparency and consistency, portions of this document has been adapted from the 2019 Auto Body and Collision Technician Red Seal Occupational Standard (Employment and Social Development Canada).

A complete version of the Occupational Standard can be found at www.red-seal.ca.



STRUCTURE OF THE **GUIDE TO COURSE** **CONTENT**

To facilitate understanding of the occupation, this guide to course content contains the following sections:

Task Matrix: a chart which outlines graphically the major work activities, tasks and sub-tasks of this standard detailing the essential skills and the level of training where the content is covered. The Task Matrix is broken down into the following:

Major Work Activity: 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.

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

Training Profile Chart: a chart which outlines the model for Saskatchewan Apprenticeship and Trade Certification Commission (SATCC) technical training.

Technical Training Course Content for the Auto Body and Collision trade: a chart which outlines the model for SATCC technical training sequencing. For the harmonized level of training, a cross reference to the Harmonized apprenticeship technical training sequencing, at the learning outcome level, is provided.

TRAINING REQUIREMENTS FOR THE **AUTO BODY AND COLLISION TECHNICIAN TRADE**

To graduate from each level of the apprenticeship program, an apprentice must successfully complete the required technical training and compile enough on-the-job experience to total at least 1800 hours each year. Total trade time required is 7200 hours and at least 4 years in the trade.

There are four levels of technical training delivered by Saskatchewan Polytechnic in Saskatoon and Regina.

Level One:	6 weeks
Level Two:	6 weeks
Level Three:	7 weeks
Level Four:	7 weeks

The information contained in this document details the technical training delivered for each level of apprenticeship. An apprentice spends approximately 15% of their apprenticeship term in a technical training institute learning the technical and theoretical aspects of the trade. The hours and percentages of technical and practical training may vary according to class needs and progress.

The content of the technical training components is subject to change without notice.

Entrance Requirements for Apprenticeship Training

Your grade twelve transcripts (with no modified classes) or GED 12 is your guarantee that you meet the educational entrance requirements for apprenticeship in Saskatchewan. In fact, employers prefer and recommend apprentices who have completed high school. This ensures the individual has all of the necessary skills required to successfully complete the apprenticeship program, and receive journeyman certification.

Individuals with “modified” or “general” classes in math or science do not meet our entry requirements. These individuals are required to take an entrance assessment prescribed by the SATCC.

English is the language of instruction in all apprenticeship programs and is the common language for business in Saskatchewan. Before admission, all apprentices and/or “upgraders” must be able to understand and communicate in the English language.

Designated Trade Name	Math Credit at the Indicated Grade Level ^❶	Science Credit at Grade Level
Auto Body and Collision Technician	Grade 10	Grade 10
❶ - (One of the following) WA – Workplace and Apprenticeship; or F – Foundations; or P – Pre-calculus, or a Math at the indicated grade level (Modified and General Math credits are not acceptable.). *Applicants who have graduated in advance of 2015-2016, or who do not have access to the revised Science curricula will require a Science at the minimum grade level indicated by trade. For information about high school curriculum, including Math and Science course names, please see: http://www.curriculum.gov.sk.ca/ Individuals not meeting the entrance requirements will be subject to an assessment and any required training.		

AUTO BODY AND COLLISION TECHNICIAN

TASK MATRIX

This chart outlines the major work activities, tasks and sub-tasks from the 2019 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.

A – Performs Common Occupational Skills

12%

A-1 Performs safety-related functions	1.01 Maintains safe work environment 1 (2, 3, 4 In Context)	1.02 Uses personal protective equipment (PPE) and safety equipment 1 (2, 3, 4 In Context)			
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
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			
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	
A-5 Uses communication and mentoring techniques	5.01 Uses communication techniques 1 (2, 3 In Context)	5.02 Uses mentoring techniques 4			

A-6 Removes and installs trim and hardware	6.01 Removes trim and hardware 1	6.02 Installs trim and hardware 1
A-7 Performs final inspections	7.01 Performs final operational check 3	7.02 Performs final quality control inspection 4
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

23%

B-9 Prepares for repair and replacement of structural components	9.01 Identifies extent of damage 3, 4	9.02 Removes components for access 3, 4	9.03 Performs vehicle setup 3, 4
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
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

20%

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
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
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

12%

D-15 Deactivates and reactivates alternative-fuel systems	15.01 Deactivates alternative-fuel systems 3	15.02 Reactivates alternative-fuel systems 3
D-16 Removes and installs mechanical components	16.01 Removes mechanical components 3, 4	16.02 Installs mechanical components 3, 4

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

10%

E-18 Repairs and replaces interior components

18.01 Repairs interior components

2

18.02 Replaces interior components

2

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

18%

F-20 Prepares surface

20.01 Performs initial preparation

1
(3, 4 In Context)

20.02 Masks surface

1
(3, 4 In Context)

20.03 Strips surface

1
(3, 4 In Context)

20.04 Sands surface

1
(3, 4 In Context)

F-21 Uses repair materials

21.01 Mixes repair materials

1

21.02 Applies repair materials

1

F-22 Prepares refinishing equipment

22.01 Prepares spray booth

1, 2

22.02 Performs spray gun setup

1, 2

F-23 Prepares refinishing materials	23.01 Mixes refinishing materials 1, 2, 3, 4	23.02 Performs colour adjustments 2, 3, 4		
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
F-25 Prepares post-refinishing functions	25.01 Removes masking materials 1	25.02 Corrects surface imperfections 2		

G – Performs Detailing and Cleaning

5%

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

TRAINING PROFILE CHART

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

Level One	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	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	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 CONTENT

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.

Sub-tasks listed are the minimum to be covered in a topic. Related sub-tasks not listed may be used as a reference and taught “In Context” in other topics.

Level One	6 weeks	180 hours
Trade Mathematics • use basic mathematics • use basic algebra • use metric system and formulas		12 hours
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 • 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		20 hours
Metal Repair – Shop • 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		36 hours
RSOS topics covered in this section of training: A-2 Uses and maintains tools and equipment A-2.01 Maintains hand and power tools A-2.03 Uses lifting equipment A-2.05 Maintains refinishing tools and equipment		

A-3 Uses and maintains welding equipment

A-3.01 Uses welding equipment

A-3.02 Maintains welding equipment

A-4 Organizes work and uses documentation

A-4.03 Organizes parts, materials and work area

A-4.04 Uses documentation

A-5 Uses communication and mentoring techniques

A-5.01 Uses communication techniques

C-12 Removes, repairs and installs metal panels and components

C-12.01 Prepares metal panels and components for repair

C-12.02 Removes metal panels and components

C-12.03 Repairs metal panels and components

C-12.04 Installs metal panels and components

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

RSOS topics covered in this section of training:**F-20 Prepares surfaces**

F-20.01 Performs initial preparation

F-20.02 Masks surface

F-20.03 Strips surface

F-20.04 Sands surface

F-21 Uses repair materials

F-21.01 Mixes repair materials

F-21.02 Applies repair materials

F-22 Prepares refining equipment

F-22.01 Prepares spray booth

F-22.02 Performs spray gum setup

F-23 Prepares refinishing materials

F-23.01 Mixes refinishing materials

F-23.02 Performs colour adjustments

F-24 Applies refinishing materials

F-24.01 Applies sealers

F-24.02 Applies base coat

F-24.03 Applies single-stage paint

F-24.04 Applies clear coat

F-25 Performs post-refinishing functions

F-25.01 Removes masking materials

F-25.02 Corrects surface imperfections

G-26 Details exterior

G-26.01 Removes minor imperfections

G-26.02 Polishes vehicle

G-26.03 Touch up stone chips

G-27 Cleans vehicle

G-27.01 Cleans exterior

G-27.02 Cleans interior

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

RSOS topics covered in this section of training:**A-1 Performs safety-related functions**

A-1.01 Maintains safe work environment

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

A-6 Removes and installs trim and hardware

A-6.01 Removes trim and hardware

A-6.02 Installs trim and hardware

C-13 Removes, repairs and installs plastic and composite panels and components

C-13.01 Prepares plastic and composite panels and components

C-13.02 Removes plastic and composite panels and components

C-13.03 Repairs plastic and composite panels and components

C-13.04 Installs plastic and composite panels and components

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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

RSOS topics covered in this section of training:

F-22 Prepares refining equipment

F-22.01 Prepares spray booth

F-22.02 Performs spray gun setup

F-23 Prepares refinishing materials

F-23.01 Mixes refinishing materials

F-23.02 Performs colour adjustments

F-24 Applies refinishing materials

F-24.01 Applies sealers

F-24.02 Applies base coat

F-24.03 Applies single-stage paint

F-24.04 Applies clear coat

F-25 Performs post-refinishing functions

F-25.02 Corrects surface imperfections

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

RSOS topics covered in this section of training:

A-4 Organizes work and uses documentation

A-4.02 Prepares repair plan

A-4.03 Organizes parts, materials and work area

A-4.04 Uses documentation

A-8 Applies corrosion protection and sound deadening materials

A-8.01 Applies corrosion inhibitors and undercoats

A-8.02 Applies seam sealers and sound deadeners

B-11 Removes, installs and repairs structural and laminated glass

B-11.01 Removes structural glass

B-11.02 Installs structural glass

B-11.03 Repairs laminated glass

C-12 Removes, repairs and installs metal panels and components

C-12.03 Repairs metal panels and components

C-13 Removes, repairs and installs plastic and composite panels and components

C-13.01 Prepares plastic and composite panels and components

C-13.02 Removes plastic and composite panels and components

C-13.03 Repairs plastic and composite panels and components

C-13.04 Installs plastic and composite panels and components

C-14 Removes and installs non-structural glass

C-14.01 Removes non-structural glass

C-14.02 Installs non-structural glass

E-18 Repairs and replaces interior components

E-18.01 Repairs interior components

E-18.02 Replaces interior components

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

RSOS topics covered in this section of training:**A-2 Uses and maintains tools and equipment**

A-2.03 Uses lifting equipment

A-2.05 Maintains refinishing tools and equipment

A-3 Uses and maintains welding equipment

A-3.01 Uses welding equipment

A-3.02 Maintains welding equipment

Level Two topics from the RSOS that are taught in context:**A-1 Safety-Related Functions****A-5 Communication**

For details regarding the In Context Topics, see page 21

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

RSOS topics covered in this section of training:

A-2 Uses and maintains tools and equipment

A-2.02 Maintains frame and unibody repair and measuring equipment

A-2.04 Uses diagnostic equipment

A-3 Uses and maintains welding equipment

A-3.01 Uses welding equipment

A-3.02 Maintains welding equipment

A-4 Organizes work and uses documentation

A-4.01 Prepares estimates and supplements

A-4.04 Uses documentation

B-9 Prepares for repair and replacement of structural components

B-9.01 Identifies extent of damage

B-9.02 Removes components for access

B-9.03 Performs vehicle setup

B-10 Repairs, removes and installs structural components

B-10.01 Repairs structural components

B-10.02 Removes structural components

B-10.03 Installs structural components

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

RSOS topics covered in this section of training:**A-7 Performs final inspections**

A-7.01 Performs final operational check

D-15 Deactivates and reactivates alternative-fuel systems

D-15.01 Deactivates alternative-fuel systems

D-15.02 Reactivates alternative-fuel systems

D-16 Removes and installs mechanical components

D-16.01 Removes mechanical components

D-16.02 Installs mechanical components

D-17 Removes, repairs and installs electrical and electronic components

D-17.01 Removes electrical components

D-17.02 Repairs damaged wires and protective coverings

D-17.03 Installs electrical components

D-17.04 Services advanced electronic components

E-19 Services supplemental restraint systems (SRS)

E-19.01 Services seat belt restraint systems

E-19.02 Services air bags and related components

Refinishing – Theory**15 hours**

- discuss multi-coat refinishing

Refinishing – Shop**45 hours**

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

RSOS topics covered in this section of training:**F-23 Prepares refinishing materials**

F-23.01 Mixes refinishing materials

F-23.02 Performs colour adjustments

Level Three topics from the RSOS that are taught in context:**A-1 Safety-Related Functions****A-5 Communication****B-11 Removes, Installs and Repairs Structural and Laminated Glass****C-14 Removes and Installs Non-Structural Glass****F-23 Prepares Refinishing Materials***For details regarding the In Context Topics, see page 21*

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

RSOS topics covered in this section of training:

A-5 Uses communication and mentoring techniques

A-5.02 Uses mentoring techniques

A-7 Performs final inspections

A-7.02 Performs final quality control inspection

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

RSOS topics covered in this section of training:

A-2 Uses and maintains tools and equipment

A-2.02 Maintains frame and unibody repair and measuring equipment

A-2.04 Uses diagnostic equipment

A-3 Uses and maintains welding equipment

A-3.01 Uses welding equipment

A-3.02 Maintains welding equipment

A-4 Organizes work and uses documentation

A-4.01 Prepares estimates and supplements

A-4.04 Uses documentation

B-9 Prepares for repair and replacement of structural components

B-9.01 Identifies extent of damage

B-9.02 Removes components for access

B-9.03 Performs vehicle setup

B-10 Repairs, removes and installs structural components

B-10.01 Repairs structural components

B-10.02 Removes structural components

B-10.03 Installs structural components

D-16 Removes and installs mechanical components

D-16.01 Removes mechanical components

D-16.02 Installs mechanical components

D-17 Removes, repairs and installs electrical and electronic components

D-17.04 Services advanced electronic components

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

RSOS topics covered in this section of training:**F-23 Prepares refinishing materials**

F-23.01 Mixes refinishing materials

F-23.02 Performs colour adjustments

Level Four topics from the RSOS that are taught in context:***A-1 Safety-Related Functions******F-23 Prepares Refinishing Materials******For details regarding the In Context Topics, see page 21***

In Context Topics

In context means learning that has already taken place and is being applied to the applicable task. Learning outcomes for in context topics are accomplished in other topics in that level.

A-1 Performs safety-related functions

A-1.01 Maintains safe work environment

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

A-5 Uses communication and mentoring techniques

A-5.01 Uses communication techniques

B-11 Removes, installs and repairs structural and laminated glass

B-11.01 Removes structural glass

B-11.02 Installs structural glass

B-11.03 Repairs laminated glass

C-14 Removes and installs non-structural glass

C-14.01 Removes non-structural glass

C-14.02 Installs non-structural glass

F-23 Prepares refinishing materials

F-23.01 Mixes refinishing materials

F-23.02 Performs colour adjustments