



Auto Body and Collision Technician

On-the-Job Training Guide

2022

1-877-363-0536
apprenticeship@gov.sk.ca
saskapprenticeship.ca



Saskatchewan
Apprenticeship and
Trade Certification
Commission

Online: www.saskapprenticeship.ca

Recognition:

To promote transparency and consistency, this document has been adapted from the 2018 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.

Note: 2022-2023 School year. Levels One, Two and Three are now in the Pan-Canadian Harmonized stream. Level Four remains in the conventional stream.

This is so apprentices in either stream remains in the correct path throughout their apprenticeship.

STRUCTURE OF THE ON-THE-JOB TRAINING GUIDE

To facilitate understanding of the occupation, this on-the-job training guide contains the following sections:

Description of the Auto Body and Collision Technician trade: an overview of the trade's duties and training requirements.

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

Harmonization: a brief description on the Pan-Canadian Harmonization Initiative for the Auto Body and Collision Technician trade.

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.

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.

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

On-the-Job Training Content for the Auto Body and Collision Technician Trade: a chart which outlines the topics of technical training with on-the-job examples for apprentice to achieve relevant experience at work.

DESCRIPTION OF THE AUTO BODY AND COLLISION TECHNICIAN TRADE

Auto Body and Collision Technicians perform the appraising, servicing, repairing, replacing, refinishing and restoring of damaged bodies and frames of motor vehicles.

Auto body and collision technicians repair and restore damaged motor vehicles. They assess body damage and develop repair estimates and repair plans. Their repair work may range from correcting minor structural damage and cosmetic scratches and dents to fixing extensive structural damage to motor vehicles. Some parts may need to be removed for access or during repairs. Vehicle parts that are damaged beyond repair are replaced. The alignment and replacement of suspension and steering components is also performed in this trade. Restoring interior components of vehicles falls within the scope of the trade. Auto body and collision technicians may work with mechanical and electronic components such as air conditioning (A/C) systems, exhaust systems, drivetrain, engine cooling systems, advanced electronic components (adaptive cruise control and lane departure features), and passenger restraint systems (seat belts and air bags).

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

Auto body and collision technicians require proficiency with a variety of tools and equipment, some of which are technologically advanced. Diagnostic scanning equipment is used for diagnosis and programming electronic and electrical systems. Hand and power tools are used in the repair and replacement of motor vehicle parts. Welding and cutting equipment is also used. Auto body and collision technicians work with a number of materials such as metal, glass, plastic and composites. Surface repairs may require the application of repair materials. In addition, they may prepare surfaces for refinishing and apply a variety of appropriate refinishing products. They have refinishing application and detailing skills.

Working environments vary in this trade. Typically, auto body and collision technicians work indoors in an environment that may be noisy and dusty. However, many repair facilities are well ventilated to reduce health risks from dust and fumes. Health and safety are important issues as these workers are frequently in contact with chemicals (e.g. paints, solvents and fillers) and physical hazards (e.g. lifting heavy objects, frame equipment and sharp metal). Ongoing safety training and safe work practices are important.

Key attributes for people entering this trade are good communication skills, mechanical aptitude, problem solving skills, an eye for detail, computer literacy and a commitment to ongoing training. The work often requires considerable standing, kneeling, lifting, climbing, pulling and reaching.

With experience, auto body and collision technicians may move into supervisory positions, start their own business, or become auto damage appraisers. Some of the skills of this trade may be transferred to other occupations such as sheet metal worker, industrial painter, welder, automotive painter, glazier or automotive service technician and to other sectors such as manufacturing, aviation and marine.

Training Requirements: 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.

Journeyman to apprentice ratio for this trade is: 1:2

The information contained in this document serves as a guide for employers and apprentices. Apprenticeship training is mutually beneficial to both employer and apprentice. The employer's investment in training apprentices results in skilled and certified workers. The document summarizes the tasks to be covered by the apprentice during their on-the-job portion of apprenticeship training. An apprentice spends approximately 85% of their apprenticeship term training on-the-job.

It is the employer's or journeyman's responsibility to supervise an apprentice's practical skills development until a satisfactory level of proficiency has been reached.

EMPLOYER TRAINING RESPONSIBILITY

- promote a safety-conscious workplace
- provide mentored, hands-on practice in the use of tools and equipment
- demonstrate procedures relevant to the inspecting, diagnosing, servicing, repairing, replacing and overhauling of all components of an automobile, light truck or light bus
- provide the opportunity for apprentices to service the above systems and vehicles
- further the apprentice's ability to interpret technical drawings and schematics
- ensure that the apprentice can troubleshoot, diagnose and repair the vehicle and its systems

Employers should make every effort to expose their apprentices to work experience in as many areas of the trade as possible.

In the On-the-Job Training Guide, in-school instruction is listed first; on-the-job suggestions to help employers assist the apprentice to prepare for in-school training are listed next.

The content of the 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. Applicants whose first language is not English must have a minimum Canadian Language Benchmark Assessment of six (CLB6).

Note: A CLB assessment is valid for a one-year period from date of issue.

Designated Trade Name	Math Credit at the Indicated Grade Level❶	Science Credit at Grade Level
Auto Body and Collision Technician	Grade 10	Grade 10
<p>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.).</p> <p>*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.</p> <p>For information about high school curriculum, including Math and Science course names, please see: http://www.curriculum.gov.sk.ca/#</p> <p>Individuals not meeting the entrance requirements will be subject to an assessment and any required training.</p>		

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.

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

The application of these skills may be described throughout this document within the competency statements which support each subtask 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: www.red-seal.ca.

READING

Auto body and collision technicians read labels, technical service bulletins and manuals to learn about installation and repair procedures. They read estimates, work orders and memos about damages and details of customers' requests. Auto body and collision technicians read safety-related information and a variety of Acts, bylaws and regulations. They also read trade publications to learn about new technologies, products and materials.

DOCUMENT USE

Auto body and collision technicians observe hazard symbols on product labels. They locate and interpret data on forms, work orders and documents to identify product identification numbers, parts and colours. Auto body and collision technicians read documents to determine product specifications such as dimensions of doors, hatches and seat belt restraint systems. They also identify devices and circuits in schematics and technical drawings to identify connectors, switches, and the position and orientation of vehicle parts and assemblies.

WRITING

Auto body and collision technicians write notes and supplements on work orders and forms to describe what work was performed. They may write reports describing workplace incidents.

ORAL COMMUNICATION

Auto body and collision technicians communicate with co-workers, vendors and customers about the scope of work and work completed. They may explain procedures to apprentices. Auto body and collision technicians may exchange technical information with co-workers and technicians when seeking advice on procedures for carrying out tasks.

NUMERACY

Auto body and collision technicians take a variety of measurements, and analyze and compare them to manufacturers' specifications. They may estimate times and materials for projects.

THINKING

Auto body and collision technicians use problem solving skills to determine severity of damage prior to beginning repairs and to identify hidden damages when dismantling vehicles. They judge the quality of repairs by considering shape, length, depths of bodylines, fit of doors and parts. Auto body and collision technicians decide order and priority of tasks taking into consideration availability of equipment and priority of unfinished work.

DIGITAL TECHNOLOGY

Auto body and collision technicians may use mobile devices to complete numeracy-related tasks. They may use digital cameras to visually inspect hard to access vehicle components for damages. They use diagnostic equipment. Auto body and collision technicians may use specialized auto body service databases to access job assignments, retrieve and review past service information, and complete estimates and work orders. They may use the internet to access OEM specifications and procedures and training courses or forums to provide advice and learn how to complete repairs.

WORKING WITH OTHERS

Auto body and collision technicians spend most of their time working independently but they may be required to coordinate activities with workers from other departments to ensure vehicle availability when repairing damaged vehicles. They may also work directly with co-workers when moving vehicles and lifting large and heavy parts into place.

CONTINUOUS LEARNING

Auto body and collision technicians are continuously learning to keep up with the changes in the industry. They attend on-site, on-line or classroom training provided by industry associations or manufacturers and suppliers.

ELEMENTS OF HARMONIZATION FOR APPRENTICESHIP TRAINING

At the request of industry, the Harmonization Initiative was launched in 2013 to *substantively align* apprenticeship systems across Canada by making training requirements more consistent in the Red Seal trades. Harmonization aims to improve the mobility of apprentices, support an increase in their completion rates and enable employers to access a larger pool of apprentices.

As part of this work, the Canadian Council of the Directors of Apprenticeship (CCDA) identified four main harmonization priorities in consultation with industry and training stakeholders:

1. Trade name

The official Red Seal name for this trade is Auto Body and Collision Technician.

2. Number of Levels of Apprenticeship

The number of levels of technical training recommended for the Auto Body and Collision Technician trade is four.

3. Total Training Hours during Apprenticeship Training

The total hours of training, including both on-the-job and in-school training for the Auto Body and Collision Technician trade is 7200.

4. Consistent sequencing of training content (at each level) using the most recent Occupational Standard

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. See Appendix A for the finalized curriculum comparisons.

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
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	10.02 Removes structural components 3	10.03 Installs structural components 3

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

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 C-15 Deactivates and reactivates alternative-fuel systems

15.01 Deactivates alternative-fuel systems

3

15.02 Reactivates alternative-fuel systems

3

Task C-16 Removes and installs non-structural glass

16.01 Removes mechanical components

3

16.02 Installs mechanical components

3

Task C-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

E – Repairs interior components and services restraint systems

Task E-18 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-21 Uses 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 G-27 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 (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

ON-THE JOB AND IN-SCHOOL TRAINING

CONTENT FOR THE AUTO BODY AND COLLISION

TECHNICIAN TRADE

This chart outlines on-the-job examples for apprentices to achieve relevant work experience to prepare for the topics of technical training. Topics of technical training are provided with the associated learning outcomes.

Level One	6 weeks	180 hours
<p>Trade Mathematics 12 hours</p> <ul style="list-style-type: none"> • use basic mathematics • use basic algebra • use metric system and formulas <p>Mentors can assist the apprentice to prepare for this section of technical training by:</p> <ul style="list-style-type: none"> • <i>having the apprentice perform calculations using basic math, algebra and formulas for trade related activities.</i> 		
<p>Metal Repair – Theory 20 hours</p> <ul style="list-style-type: none"> • 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 		
<p>Metal Repair – Shop 36 hours</p> <ul style="list-style-type: none"> • 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 <p>Mentors can assist the apprentice to prepare for this section of technical training by:</p> <ul style="list-style-type: none"> • <i>having the apprentice participate in training for workplace safety and health regulations such as Material Safety Data Sheets (MSDS), Workplace Hazardous Material Information Systems (WHMIS) and Occupational Health and Safety (OH&S)</i> • <i>describing the care, use, and maintenance of body hand tools</i> • <i>describing the procedures and techniques for shrinking metal so that it conforms to its original contour</i> • <i>allowing the apprentice to perform rough out procedures for buckles and creases</i> • <i>exposing the apprentice to repairs required to damaged panels to conform to their original shape, strength, and alignment with the undamaged panels</i> • <i>providing instruction on repairing minor dents so that the panel conforms to its original shape</i> 		

- *having the apprentice apply and finish body filler to the original contour of the panel*
- *allowing the apprentice to operate oxy-acetylene cutting equipment*
- *allowing the apprentice to operate plasma arc cutting equipment*

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

Mentors can assist the apprentice to prepare for this section of technical training by:

- *describing the procedures for service, maintenance, and cleaning of spray equipment*
- *describing the procedures for service, maintenance, and cleaning of air supply systems*
- *describing the appropriate selection and maintenance of respirators*
- *describing the procedures for paint booth maintenance*
- *having the apprentice identify substrate and panel preparation to ensure compatibility with paint manufacturer's specifications*
- *allowing the apprentice to mask and tape a panel for refinishing*
- *exposing the apprentice to the selection and application of primers for various substrate*
- *exposing the apprentice to the selection and application of sealers designed to perform various functions*
- *allowing the apprentice to select and mix paints according to colour code and compatibility with existing vehicle finish*
- *allowing the apprentice to paint various substrate in accordance to paint manufacturer's specifications*
- *describing the procedures for the disposal of paint, solvent, and shop wastes*
- *having the apprentice polish a refinished panel or vehicle*
- *describing the procedure for the selection and use of cleaners for removing various types of stains and dirt from upholstery materials and interior components*
- *having the apprentices to perform vehicle interior and exterior cleanup*
- *allowing the apprentice to complete a final checklist*

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

Mentors can assist the apprentice to prepare for this section of technical training by:

- *allowing the apprentice to remove, install and align of bumpers, header panels, hoods, fenders and skirts, bolt-on radiator supports and deck lids*
- *showing the apprentice procedures on diagnosing and repairing air, dust, and water leaks*
- *allowing the apprentice to remove, install and align headlights*
- *allowing the apprentice remove, install, and align of doors and door hardware*
- *allowing the apprentice remove, install, and align of moveable glass*
- *having the apprentice use a multimeter to diagnose electrical circuits and components*
- *describing the operation, basic diagnosis, and repair of electrical wiring and lighting systems*
- *discussing the protection of electronic components from static discharge and damage from welding processes, impact, or heat*

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

Mentors can assist the apprentice to prepare for this section of technical training by:

- *having the apprentice perform a blend repair*
- *allowing the apprentice to prepare panels for spot repairs*
- *having the apprentice perform colour matching for a spot repair*
- *describing the procedures and allowing the apprentice to paint spot repairs such that the painted surface has no imperfections and matches colour and texture*
- *describing the methods and allowing the apprentice to install decals and pin stripes*
- *having the apprentice perform decal removal and replacement procedures*

Vehicle Body Trim Repair – Theory

30 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

48 hours

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

Mentors can assist the apprentice to prepare for this section of technical training by:

- *having the apprentice select compatible bonding materials, and perform adhesive bonding repairs plastic components*
 - *allowing the apprentice to repair rust damage appropriate to the panel to restore its original shape and contour*
 - *describing the reinforcement of weak, damaged area (ridging, bending, beading, fish plating) so that damage control areas remain unaffected*
 - *describing the procedures and application for panel bonding*
 - *exposing the apprentice to plastic painting techniques and procedures*
 - *describing the removal and installation of stationary glass to conform to manufacturer's specifications*
 - *allowing the apprentice to remove and install stationary glass*
-

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

Mentors can assist the apprentice to prepare for this section of technical training by:

- *describing the hazards and safe work practices for the set-up, adjustment, and maintenance and of welding and cutting equipment*
- *exposing the apprentice to welding and cutting of various types of metal*
- *describing the procedures and allowing the apprentice to setup, adjustment, and maintenance of GMAW welding equipment*
- *exposing the apprentice to GMAW welding processes to perform spot, butt, lap, fillet, and plug welds in all positions*
- *allowing the apprentice to operate and maintain squeeze-type resistance spot welding equipment*
- *describing the identification of types of plastic, selecting compatible welding materials, and plastic welding techniques*
- *allowing the apprentice to perform plastic welding*

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

15 hours

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

Mentors can assist the apprentice to prepare for this section of technical training by:

- *exposing the apprentices to various automobile construction such as conventional, unitized and space frames*
 - *describing the effects of collision forces*
 - *exposing the apprentice to repairs of high strength steel components*
 - *exposing the apprentice to repairs of hydro-formed steel components*
 - *describing the procedures and allowing the apprentice to perform stress relieving of vehicle frames*
 - *describing the procedure to assess the extent of impact damage to a damaged vehicle frame*
-

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

Mentors can assist the apprentice to prepare for this section of technical training by:

- *exposing the apprentices to structural parts replacement and sectioning for metal repairs*
- *allowing the apprentice, the opportunity to obtain CFC training/certification*
- *describing the procedures and allowing the apprentice to identify damage and perform an R&R of air conditioning components*
- *describing the procedures and allowing the apprentice to perform an R&R of heating and cooling systems, components, and controls*
- *describing the hazards and safe work practices for passive restraint systems*
- *exposing the apprentice to the safety repair procedure when servicing hybrid vehicles*
- *exposing the apprentice to the inspection, removal and installation of passive restraint systems*
- *allowing the apprentice to inspect, remove and install active restraint systems*

- *describing the use of flow charts and wiring diagrams for troubleshooting electrical circuits and components*
- *exposing the apprentice to electrical system testing using various diagnostic test equipment*
- *describing the procedures and monitoring the apprentice during a final check of vehicle repairs to ensure work performed has restored the vehicle to manufacturer's specifications*
- *describing the final inspection and testing of vehicle systems and components to verify operation*

Refinishing – Theory

15 hours

- discuss multi-coat refinishing

Refinishing – Shop

45 hours

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

Mentors can assist the apprentice to prepare for this section of technical training by:

- *allowing the apprentice to perform a multi-coat colour match for a vehicle repair*
- *exposing the apprentice to the refinishing of a multi-coat on complete vehicles*
- *exposing the apprentice to multi coat refinishing repairs*

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

Mentors can assist the apprentice to prepare for this section of technical training by:

- *describing the procedures and allowing the apprentice to straighten damaged suspension structures to restore alignment*
 - *exposing the apprentice to replacement of suspension components*
 - *exposing the apprentice to replacement of steering components*
 - *exposing the apprentice to 4 wheel alignments*
 - *describe the procedures to diagnose wheel alignment and vehicle tracking problems*
-

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

Mentors can assist the apprentice to prepare for this section of technical training by:

- *describing the procedures and allowing the apprentice to inspect and analyze vehicle damage to produce repair estimates that include cost of parts, labour, materials, and identifying hidden damage*
- *exposing the apprentice to the safety repair procedure when servicing hybrid vehicles*
- *exposing the apprentice to computer software for preparing estimates, sourcing vehicle*
- *allowing the apprentice to pull and align frames, panels, and components*
- *exposing the apprentice to structural panel replacement*
- *specifications, locating parts, preparing work orders, and other related office functions*
- *exposing the apprentice to all aspects of collision repair including frames, interior, and exterior panels*
- *exposing the apprentice to vehicles with rollover damage*
- *allowing the apprentice to replace roof panels*
- *describing the setup, adjustment, and operation of GMAW welding equipment to perform aluminium welds in the horizontal position*
- *allowing the apprentice to perform aluminium welding*
- *describing the procedures and allowing the apprentice to use of electrical diagnostic test equipment*
- *allowing the apprentice to troubleshooting and repair electrical circuits, wiring, and 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

Mentors can assist the apprentice to prepare for this section of technical training by:

- *allowing the apprentice to perform colour matching for multi coat refinishes*
- *exposing the apprentice to the refinishing of complete vehicles*
- *describing the procedures and allowing the apprentice to prepare vehicles for delivery and perform final vehicle inspections*

Consider apprenticeship training as an investment in the future of your company and in the future of your workforce. Ultimately, skilled and certified workers increase your bottom line.

Get involved in the apprenticeship training system. Your commitment to training helps to maintain the integrity of the trade.

Do you have employees who have been working in the trade for a number of years but don't have trade certification?

Contact your local apprenticeship office for details on how they might obtain the certification they need.

Saskatchewan Apprenticeship & Trade Certification Commission

2140 Hamilton St Regina SK S4P 2E3

Tel: (306) 787-2444

Fax: (306) 787-5105

Toll Free: 1-877-363-0536

web site: www.saskapprenticeship.ca

District Offices

Estevan (306) 637-4930

La Ronge (306) 425-4385

Moose Jaw (306) 694-3735

North Battleford (306) 446-7409

Prince Albert (306) 953-2632

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