Recreation Vehicle Service Technician

On-The-Job Training Guide

2024

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 2012 Recreation Vehicle Service Technician National 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 ON-THE-JOB TRAINING GUIDE

To facilitate understanding of the occupation, this on-the-job training guide 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.

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 Recreation Vehicle Service Technician Trade: a chart which outlines the topics of technical training with on-the-job examples for apprentice to achieve relevant experience at work.

TRAINING REQUIREMENTS FOR THE RECREATION VEHICLE SERVICE 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 1600 hours each year. Total trade time required is 4800 hours and at least 3 years in the trade.

Level One:	8 weeks
Level Two:	8 weeks
Level Three:	8 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.

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

EMPLOYER TRAINING RESPONSIBILITY

- introduce the apprentice to daily practice in approved safety procedures
- provide guided, hands-on practical experience and theory in the tasks and skills of the Recreation Vehicle Service Technicians trade
- where possible, expose the apprentice to new technology in the trade

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 technical training components is subject to change without notice.

RECREATION VEHICLE SERVICE TECHNICIAN
TASK MATRIX

This chart outlines the major work activities, tasks and sub-tasks from the 2012 Recreation Vehicle Service National Occupational Analysis. 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 – Common Occupational Skills — 8%

A-1 Performs safety-related activities	**A-1.01 Uses personal protective equipment (PPE) and safety equipment** 1	**A-1.02 Maintains safe work environment** 1	
A-2 Uses and maintains tools and equipment	**A-2.01 Maintains tools and equipment** 1,3	**A-2.02 Uses lifting, moving and access equipment** 1	
A-3 Performs common work practices and procedures	**A-3.01 Uses blueprints, drawings, schematics and sketches** 2	**A-3.02 Identifies outstanding recalls and service bulletins** 1,2	**A-3.03 Performs pre-delivery inspections (PDI)** 1

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B – Plumbing Systems — 11%

B-4 Diagnoses plumbing systems	B-4.01 Diagnoses potable water systems 1	B-4.02 Diagnoses waste water systems 1	
B-5 Services potable water systems	B-5.01 Maintains potable water systems 1	B-5.02 Repairs potable water systems 1	B-5.03 Installs potable water systems 1
B-6 Services waste water systems	B-6.01 Maintains waste water systems 1	B-6.02 Repairs waste water systems 1	B-6.03 Installs waste water system components 1

C – Electrical Systems — 18%

C-7 Diagnoses electrical systems	C-7.01 Diagnoses AC electrical and power supply systems 2,3	C-7.02 Diagnoses DC electrical and power supply systems 1,2,3	
C-8 Services AC electrical systems	C-8.01 Maintains AC electrical and power supply systems 1,2,3	C-8.02 Repairs AC power supply and distribution system 2,3	C-8.03 Installs AC power supply and distribution system components 2,3
C-9 Services DC electrical systems	C-9.01 Maintains DC electrical and power supply systems 1,2,3	C-9.02 Repairs DC power supply and distribution systems 1,2,3	C-9.03 Installs DC power supply and distribution system components 1,2,3

D – Liquified Petroleum (LP) Gas Systems — 16%

D-10 Diagnoses LP gas systems	D-10.01 Diagnoses LP gas supply systems (high pressure) 1	D-10.02 Diagnoses LP gas distribution systems (low pressure) 1	
D-11 Services LP gas systems	D-11.01 Maintains LP gas systems 1	D-11.02 Repairs LP gas systems and components 1	D-11.03 Installs LP gas systems and components 1

E – Appliances and Consumer Products — 17%

E-12 Maintains appliances	E-12.01 Maintains water heaters and components 1,2	E-12.02 Maintains furnaces and components 1,2	E-12.03 Maintains ranges and ovens 1,2	E-12.04 Maintains refrigerators and ice makers 1, 3	E-12.05 Maintains air conditioners and heat pump systems 1, 3
E-13 Diagnoses appliances	E-13.01 Diagnoses water heaters 2	E-13.02 Diagnoses furnaces 2	E-13.03 Diagnoses ranges and ovens 2	E-13.04 Diagnoses refrigerators and ice makers 3	E-13.05 Diagnoses air conditioners and heat pumps 2,3
E-14 Repairs appliances and consumer products	E-14.01 Repairs Water Heaters 2	E-14.02 Repairs furnaces 2	E-14.03 Repairs ranges and ovens 2	E-14.04 Repairs refrigerators and ice makers 3	E-14.05 Repairs air conditioners and heat pumps 3
	E-14.06 Replaces consumer products 1,2,3				
E-15 Installs appliances and consumer products	E-15.01 Installs appliances and components 2,3	E-15.02 Installs consumer products and components 1,2,3			

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F – Interior and Exterior Components 10%

F-16 Diagnoses interior and exterior components	F-16.01 Diagnoses interior components 1,2,3	F-16.02 Diagnoses exterior components 1,2	
F-17 Services interior components	F-17.01 Maintains interior components 1,2,3	F-17.02 Repairs interior components 1,2,3	F-17.03 Installs interior components 1,2,3
F-18 Services exterior components	F-18.01 Maintains exterior components 1,2	F-18.02 Repairs exterior components 1,2	F-18.03 Installs exterior components 1,2

G – Chassis and Mechanical Components 13%

G-19 Maintains chassis and mechanical components	G-19.01 Maintains frames 1,2,3	G-19.02 Maintains running gear 1,3	G-19.03 Maintains levelling systems 1,3	G-19.04 Maintains slide-out and lifting systems 2, 3	G-19.05 Maintains generators 2,3
G-20 Diagnoses chassis and mechanical components	G-20.01 Diagnoses frames 1,2	G-20.02 Diagnoses running gear 1,3	G-20.03 Diagnoses leveling systems 1,3	G-20.04 Diagnoses slide-out and lifting systems 1,2,3	G-20.05 Diagnoses generators 2,3
G-21 Repairs chassis and mechanical systems	G-21.01 Repairs frames and components (Not Common Core) 1,2	G-21.02 Repairs running gear 1	G-21.03 Repairs leveling systems 3	G-21.04 Repairs slide-out and lifting systems 2,3	G-21.05 Repairs generators 2,3
G-22 Installs chassis and mechanical components	G-22.01 Installs levelling systems and components 3	G-22.02 Installs generators 2			

H – Towing Systems

7%

H-23 Diagnoses towing systems	**H-23.01 Diagnoses tow vehicle systems** 2,3	**H-23.02 Diagnoses towed vehicle systems** 2,3		
H-24 Services towing systems	**H-24.01 Maintains tow vehicle systems** 1,2,3	**H-24.02 Maintains towed vehicle systems** 1,2,3	**H-24.03 Installs tow vehicle systems and components** 2,3	**H-24.04 Installs towed vehicle systems and components** 2,3

TRAINING PROFILE CHART ALBERTA

At this time, all Saskatchewan's Recreation Vehicle Service Technician apprentices attend technical training in Alberta at Southern Alberta Institute of Technology Polytechnic (SAIT) located in Calgary, AB.

This Training Profile Chart represents Alberta Apprenticeship and Industry Training (AIT) technical training at the topic level.

Southern Alberta Institute of Technology (NAIT, SAIT) Polytechnic Level One	**Hours**
Standard Workplace Safety, Industry Overview, Regulations and Administration	38
Plumbing	24
Liquified Petroleum (LP) Systems	44
Direct Current (DC) Electrical Systems	48
Appliance Operation and Accessories	44
Mechanical and Towing Systems	42
	240

Northern and Southern Alberta Institute of Technology (NAIT, SAIT) Polytechnic Level Two	**Hours**
Standard Practices and Procedures	24
Alternating Current (AC) Electrical Systems	54
Consumer Products	24
Appliances	53
Exterior Structures	61
Mechanical and Suspension Systems	24
	240

Northern and Southern Alberta Institute of Technology (NAIT, SAIT) Polytechnic Level Three	**Hours**
Inverter And Solar Systems	30
Appliances	80
Interior Structures and Components	30
Slide outs and Levelling Systems	50
Auxiliary Fueling Systems and Specialty Haulers	25
Welding, Coaching, Certification and Committees	25
	240

ON-THE JOB AND IN-SCHOOL TRAINING CONTENT FOR THE RECREATION VEHICLE SERVICE 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 — 8 weeks — 240 hours

Section One- Standard Workplace Safety, Industry Overview, Regulations and Administration — 38 hours total

Safety Legislation, Regulations and Industry Policy in the Trades — **4 hours**

- Demonstrate the application of the Occupational Health and Safety Act, Regulation and Code
- Describe the employer's and employee's role with Occupational Health and Safety (OH&S) regulations, Worksite Hazardous Materials Information Systems (WHMIS), fire regulations, Workers Compensation Board regulations and related advisory bodies and agencies
- Describe industry practices for hazard assessment and control procedures
- Describe the responsibilities of worker and employers to apply emergency procedures
- Describe tradesperson attitudes with respect to housekeeping, personal protective equipment and emergency procedures
- Describe the roles and responsibilities of employers and employees with the selection and use of personal protective equipment (PPE)
- Maintain required PPE for tasks
- Use required PPE for tasks

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

- *describing legislation, regulations and practices intended to ensure a safe work place in this trade*
- *explaining the use of personal protective equipment (PPE)*
- *explaining the safety practices for hazardous materials and fire protection in this trade*

Climbing, Lifting, Rigging and Hoisting — **3 hours**

- Describe manual lifting procedures
- Describe rigging hardware and associated safety factors
- Select equipment for rigging loads
- Describe hoisting and load moving procedures
- Maintain personal protective equipment (PPE) for climbing, lifting and load moving equipment
- Use PPE for climbing, lifting and load moving equipment

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

- Demonstrate the application of the Occupational Health and Safety Act, Regulation and Code

- *explaining the use of personal protective equipment (PPE) and safe practices for climbing, lifting, rigging and hoisting in this trade*

Hazardous Materials and Fire Protection — 3 hours

- Describe roles, responsibilities, features and practices related to the Workplace Hazardous Materials Information System (WHMIS) program
- Describe three key elements of WHMIS
- Describe handling, storing and transporting procedures for hazardous material
- Describe venting procedures when working with hazardous materials
- Describe hazards, classes, procedures and equipment related to fire protection

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

- *describing legislation, regulations and practices intended to ensure a safe work place in this trade*
- *explaining the use of personal protective equipment (PPE)*
- *describing legislation, regulations and practices intended to ensure a safe work place in this trade*
- *explaining the safety practices for hazardous materials and fire protection in this trade*

Apprenticeship Orientation — 2 hours

- Describe the contractual responsibilities of the apprentice, employer and Apprenticeship and Industry Training
- Describe the purpose of the apprentice record book
- Describe the procedure for changing employers during an active apprenticeship
- Describe the purpose of the course outline
- Describe the procedure for progressing through an apprenticeship

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

- *explaining the process of training to become a journeyperson*

Tools and Equipment — 4 hours

- Describe the types and application of tools and equipment
- Describe the procedures for maintaining tools and equipment
- Maintain tools and equipment
- Use tools and equipment

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

- *explaining the process of training to become a journeyperson*
- *demonstrating calibrating measuring devices*
- *demonstrating cleaning tools and equipment*
- *demonstrating organizing and store tools and equipment*
- demonstrating lubricating and adding fluids to tools
- explaining identifying and report tools to be serviced or replaced

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Cleaning Procedures — 2 hours

- Describe methods and products used for spot cleaning recreation vehicles
- Describe the hazards associated with cleaning products and procedures

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

- *Demonstrating methods and products used for spot cleaning recreation vehicles.*

- *explaining the hazards associated with cleaning products and procedures*

Vehicle Identification Number (VIN) Plates and Labels — 2 hours

- Describe the types and purpose of labels applicable to recreation vehicles
- Interpret information on VIN plates and labels

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

- *verifying vehicle and component operation*
- *verify vehicle and component operation*
- *record and report findings*
- *access and record component serial numbers*

Cutting and Heating — 10 hours

- Describe cutting and heating operations permitted within the scope of this trade
- Describe the characteristics and handling of cutting and heating gases
- Describe the components of cutting and heating equipment
- Perform a leak check on cutting and heating equipment
- Describe the procedure for adjusting cutting and heating equipment
- Demonstrate the procedure for storing and maintaining cutting and heating equipment
- Perform cutting and heating operations

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

- *demonstrating the use of welding equipment, characteristics, applications and procedures for use*
- *demonstrating knowledge of regulatory requirements to maintain safe work environment*

Pre-Delivery Inspection (PDI) — 6 hours

- Describe the purpose of a PDI
- Describe PDI procedures
- Describe the purpose of PDI documentation
- Describe PDI tasks specific to recreation vehicle designs
- Perform a PDI

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

- *demonstrate knowledge of pre-delivery inspections (PDI)*
- *demonstrate knowledge of performing pre-delivery inspections*

Motorhome Controls — 2 hours

- Describe the operation of motorhome control systems
- Describe the purpose of motorhome safety equipment
- Describe codes, regulations and liabilities relating to motorhomes
- Describe diesel engine start-up procedures
- Describe the operation of air brake systems

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

- *demonstrate knowledge of running gear, their characteristics and applications*
- *demonstrate knowledge of levelling systems, their characteristics and applications*
- *demonstrate knowledge of slide-out systems, their characteristics and applications*
- *demonstrate knowledge of lifting systems, their characteristics and applications*

Section Two- Plumbing — 24 hours total

Potable Water Systems — 9 hours

- Describe the components and operation of potable water systems
- Describe the procedure for installing and servicing potable water systems
- Identify codes for potable water systems
- Service potable water systems

RSOS topics covered in this section of training:

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

- *explaining the function of potable water systems, their components, characteristics and applications*
- *Demonstrating the procedures to maintain potable water systems*

Waste Water Systems — 9 hours

- Describe the components and operation of waste water systems
- Describe the procedure for installing and servicing waste water systems
- Identify codes for waste water systems
- Service waste water systems

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

- *explaining the function of waste water systems, their components, characteristics and applications*
- *Demonstrating the procedures to maintain waste water systems*

Winterizing and De-Winterizing — 2 hours

- Describe the types and applications of plumbing antifreeze
- Describe winterizing and de-winterizing procedures

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

- *Explaining the steps in winterizing and de-winterizing of both potable and waste water systems*
- *Demonstrating the procedures in winterizing and de-winterizing of both potable and waste water systems*

Service Monitoring Systems — 4 hours

- Describe the components, principles of operation and owner procedures for monitoring systems
- Describe servicing of monitor panels and sensors

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

- *describing monitoring systems*
- *Demonstrating the procedures in servicing of monitor panels and sensors*

Section Three- Liquified Petroleum Gas (LP) Systems — 44 hours total

Propane Systems — 44 hours

- Describe the properties of propane
- Describe safety procedures for working with propane
- Describe the types and applications of propane storage vessels
- Describe the requirements for inspecting, recertifying and filling propane storage vessels
- Describe the purpose of propane system components
- Describe the operation of propane system components
- Describe the operation of leak detectors

- Identify codes for propane systems
- Perform a leak and pressure test
- Perform operations to make connections in propane systems
- Adjust a propane regulator

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

- *describing the procedures to diagnose LP gas supply systems (high pressure)*
- *Demonstrating the certification requirements to diagnose LP gas supply systems (high pressure)*
- *explaining the regulatory requirements to diagnose LP gas supply systems (high pressure)*
- *Demonstrating the servicing of LP gas distribution systems (low pressure), their components, characteristics and applications*
- *Demonstrating the procedures to diagnose LP gas distribution systems (low pressure)*
- *Demonstrating the certification requirements to diagnose LP gas distribution systems (low pressure)*
- *Demonstrating the regulatory requirements to diagnose LP gas distribution systems (low pressure)*

Section Four- Direct Current (DC) Electrical Systems — 48 hours total

DC electrical systems — 33 hours

- Describe electrical principles
- Describe the function and operation of dc circuits and circuit components
- Describe the use of schematics in servicing dc electrical systems
- Construct dc electrical circuits
- Identify codes for dc electrical systems
- Service DC components and circuits

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

- *explaining the procedures of DC systems and their components, characteristics and applications*
- *demonstrating the procedures to maintain DC systems and their components*
- *explaining the training and certification requirements to maintain DC systems and components*
- *explaining the regulatory requirements to install DC systems and their components*

Batteries — 15 hours

- Identify the types and application of batteries
- Describe the principles of battery operation
- Describe the procedure for storing and installing batteries
- Describe the procedure for testing, recharging and boosting batteries
- Identify the types of battery disconnect devices and systems

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

- *explaining DC systems and their components, characteristics and applications*
- *demonstrating the procedures to maintain DC systems and their components*
- *explaining the training and certification requirements to maintain DC systems and their components*
- *explaining the regulatory requirements to maintain DC systems and their components*

Section Five- Appliances and Accessories — 44 hours total

Appliances Operation and Replacement — 12 hours

- Describe the general operation of RV appliances
- Describe the precautions and procedures for removing and installing RV appliances

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

- *explaining the function of water heaters, their components, characteristics and applications*
- *demonstrating the procedures to diagnose water heaters*
- *explaining the certification requirements to diagnose water heaters*
- *explaining the regulatory requirements to diagnose water heaters*
- *explaining the function of furnaces, their components, characteristics and applications*
- *demonstrating the procedures to diagnose furnaces*
- *explaining the certification requirements to diagnose furnaces*
- *explaining the regulatory requirements to diagnose furnaces*
- *explaining the function of cooktops and ranges, their components, characteristics and applications*
- *demonstrating the procedures to diagnose cooktops and ranges*
- *explaining the certification requirements to diagnose cooktops and ranges*
- *explaining the regulatory requirements to diagnose cooktops and ranges*
- *explaining the function of refrigerator and ice maker components*
- *demonstrating the procedures to inspect refrigerator and ice maker components and cooling unit components*
- *explaining the function of air conditioners and heat pumps, their components, characteristics and applications*
- *demonstrating the procedures to maintain air conditioners and heat pumps*

Interior Accessories and Safety Components — 12 hours

- Describe the purpose of interior accessories and safety components
- Describe the operation of interior accessories and safety components
- Describe the procedure for installing and servicing interior accessories and safety components

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

- *explaining the function of consumer products, their characteristics, applications and operation*
- *demonstrating the procedures to repair interior consumer products*
- *demonstrating the procedures to install interior consumer products*

Exterior Accessories — 20 hours

- Describe the procedure for installing and servicing awnings
- Describe the procedure for installing and servicing screen rooms
- Describe the procedure for installing aftermarket/optional exterior accessories
- Describe the procedure for installing and servicing back-up alarms and monitoring devices
- Describe the procedure for installing and servicing steps

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

- *explaining the function of consumer products, their characteristics, applications and operation*
- *demonstrating the procedures to repair exterior consumer products*
- *demonstrating the procedures to install exterior consumer products*

Section Six- Mechanical and Towing Systems — 42 hours total

Tow Vehicle — 6 hours

- Describe the requirements and procedure for installing wiring trailer connections on a tow vehicle
- Describe the operation, application and installation of charging system isolators and relays

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

- *explaining the function of tow vehicle systems and their components, characteristics and applications*
- *demonstrating the procedures to diagnose tow vehicle systems*
- *explaining the regulatory requirements to diagnose tow and towed vehicle systems*
- *demonstrate knowledge of towed vehicle systems and their components, characteristics and applications*
- *demonstrating the procedures to diagnose towed vehicle systems*
- *demonstrating the procedures to maintain tow and towed vehicle systems*
- *demonstrating the procedures to o repair tow and towed vehicle systems*
- *demonstrating the procedures to install tow and towed vehicle systems*

Hitch Systems — 12 hours

- Describe the types and application of hitch and tow systems
- Describe the procedure for installing and adjusting hitch and tow systems
- Describe the types and application of sway control devices
- Describe the purpose and requirements for safety chains
- Describe methods, regulations and applications for dinghy towing

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

- *explaining the function of tow hitch systems and their components, characteristics and applications*
- *demonstrating the procedures to diagnose tow hitch systems*
- *explaining the regulatory requirements to diagnose tow and towed hitch systems*
- *demonstrating the procedures to diagnose towed hitch systems*
- *demonstrating the procedures to maintain tow and towed hitch systems*
- *demonstrating the procedures to o repair tow and towed hitch systems*
- *demonstrating the procedures to install tow and towed hitch systems*

Brake Systems — 6 hours

- Describe the components and operation of brake systems
- Describe the procedure for installing a tow vehicle brake control system
- Service brake systems and components

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

- *explaining the function of trailer brake systems and their components, characteristics and applications*
- *demonstrating the procedures to maintain and repair trailer braking systems*

Undercarriage — 12 hours

- Describe the purpose of undercarriage components
- Describe the construction of trailer frames
- Describe axle types, suspension systems and weight ratings
- Describe the procedure for aligning an axle
- Describe wheel and tire types and ratings
- Describe tire wear patterns and causes

- Describe types of landing gear and trailer tongue jacks
- Describe the procedure for servicing landing gear and trailer tongue jacks
- Perform wheel and tire balance
- Service wheel bearings and seals

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

- *explaining the function of frames, their characteristics and applications*
- *demonstrate knowledge of procedures to maintain frames*
- *demonstrating the procedures to maintain and perform minor repairs of frames, their characteristics and applications*

Level Two — 8 weeks — 240 hours

Section One- Standard Practices and Procedures — 24 hours total

Work Orders — 4 hours

- Describe purpose and types of work orders
- Describe air supply systems
- Describe procedure for documenting parts, labour and shop supplies

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

- *explaining the function of technical and business documents, their characteristics and applications*
- *demonstrating the procedures to interpret technical and business documents*

Estimating — 10 hours

- Describe the purpose and types of estimates
- Describe estimating policies and procedures
- Perform an estimate

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

- *explaining the function of technical and business documents, their characteristics and applications*
- *demonstrating the procedures to use and interpret technical and business documents*

Warranty and Recall Procedures — 2 hours

- Describe warranty policies and procedures
- Describe the procedure for processing recalls and service bulletins

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

- *explaining the function of technical and business documents, their characteristics and applications*
- *demonstrating the procedures to use and interpret technical and business documents*
- *demonstrating the procedures to interpret recalls and service bulletins*

Parts Catalogues and Related References — 4 hours

- Describe warranty policies and procedures
- Describe the procedure for processing recalls and service bulletins

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

- *explaining the function of technical and business documents, their characteristics and applications*

Customer Relations — 4 hours

- Describe how to provide courtesy to a customer and project a professional image
- Identify how to address customer needs and expectations
- Describe expectations for professional conduct during customer communications

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

- *explaining trade terminology*
- *demonstrating effective communication practices*
- *demonstrating strategies for learning skills in workplace*
- *demonstrating strategies for teaching workplace skills*

Section Two- Alternating Current (AC) Electrical Systems — 54 hours total

AC Electrical System Service — 24 hours

- Describe the difference between ac and dc circuits
- Describe safety precautions used when servicing ac electrical systems
- Describe the purpose and operation of ac circuit components
- Describe the purpose and operation of Energy Management Systems
- Describe codes for ac electrical systems

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

- *explaining the function of AC systems, and their components, characteristics and applications*
- *demonstrating the procedures to diagnose AC systems and their components*
- *explaining training and certification requirements to diagnose AC systems and their components*
- *explaining regulatory requirements to diagnose AC systems and their components*

Generators — 20 hours

- Describe safety hazards associated with generators
- Calculate output requirements for generators
- Describe the procedure for installing generators
- Describe codes for generator systems
- Describe the procedure for servicing generators
- Test generator output

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

- *explaining the function of generators, their components, characteristics and applications*
- *demonstrating the procedures to maintain and install generators*
- *explaining the training and certification requirements to maintain and install generators*
- *explaining the of regulatory requirements to maintain and install generators*

Converters and Charging Systems — 10 hours

- Describe types of converters and charging systems
- Describe the operation of converters and charging systems
- Describe the operation of power centers
- Describe the procedure for servicing converters, power centers and charging systems
- Calculate convertor requirements

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

- *explaining the function of DC systems, their components, characteristics and applications*
- *demonstrating the procedures to diagnose DC systems and their components*
- *explaining the training and certification requirements to diagnose DC systems and their components*
- *explaining the regulatory requirements to diagnose DC systems and their components*
  demonstrating the procedures to repair DC systems and their components
- *demonstrating the procedures to install DC systems and their components*

Section Three- Consumer Products — 24 hours total

Consumer Media Products — 24 hours

- Describe the types of consumer media products
- Describe the general operation and set up procedures for common consumer products
- Describe the procedure for installing and servicing entertainment systems
- Describe the procedure for installing and servicing antennae and satellite systems

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

- *explaining the function of consumer products, their characteristics, applications and operation*
- *demonstrating the procedures to repair and install consumer products*
- *explaining the of training and certification requirements to repair consumer products*
- *explaining the of regulatory requirements to repair consumer products*

Section Four- Appliances — 53 hours total

Cooking Equipment — 5 hours

- Describe the types of cooking equipment
- Describe the purpose and operation of cooking equipment components
- Describe codes relating to cooking equipment
- Describe the procedure for servicing cooking equipment

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

- *explaining the function of cooktops and ranges, their components, characteristics and applications*
- *demonstrating the procedures to repair, install and maintain cooktops and ranges*
- *explaining the* certification requirements to maintain cooktops and ranges
- *explaining the* regulatory requirements to maintain cooktops and ranges

Water Heating Systems — 13 hours

- Describe the types of water heating systems
- Describe the purpose and operation of water heating system components
- Describe codes for water heating systems
- Service water heating systems

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

- *explaining the function of water heaters, their components, characteristics and applications*
- *demonstrating the procedures to repair, install and maintain water heaters*
- *explaining the certification requirements to maintain water heaters*
- *explaining the regulatory requirements to maintain water heaters*

Heating Systems — 35 hours

- Describe the types and operation of heating systems
- Describe the purpose and operation of heating systems components
- Describe the types and operation of thermostats and climate controls
- Describe codes for heating systems
- Describe the procedure for servicing heating systems

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

- *explaining the function of furnaces, their components, characteristics and applications*
- *demonstrating the procedures to repair, install and maintain furnaces and their components*
- *explaining the certification requirements to maintain furnaces and their components*
- *explaining the regulatory requirements to maintain furnaces and their components*

Section Five- Exterior Structures — 61 hours total

Exterior Surfaces, Components and Structures — 41 hours

- Describe framing and insulating methods, materials and design
- Describe the types of exterior finishes
- Describe the procedure for servicing framing
- Describe the procedure for servicing exterior components
- Describe the procedure for replacing fiber reinforced plastic (FRP)
- Describe the types of material used in windows
- Describe the types of roof construction
- Describe the procedure for servicing roofing systems
- Describe the procedure for preparing units for cold weather use
- Describe the design and construction of slide-out rooms
- Describe the procedure for servicing interior walls, ceiling coverings and panels
- Identify codes relating to the servicing of exterior structures
- Replace metal siding
- Service structural and exterior components

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

- *demonstrating the procedures to repair, install and maintain furnaces and their components*
- *explaining the function of exterior components, their characteristics and applications*
- *demonstrating the procedures to repair, install and maintain exterior components*
- *explaining the training and certification requirements to maintain exterior components*
- *explaining the regulatory requirements to maintain exterior components*

Body Panels — 15 hours

- Describe the composition of body panels and components
- Describe the procedure for servicing FRP, fibre glass panels and components
- Describe the procedure for servicing plastic components
- Describe the procedure for installing and replacing decals and graphics

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

- *explaining the function of exterior components, their characteristics and applications*
- *demonstrating the procedures to repair, install and maintain exterior components*
- *explaining the training and certification requirements to maintain exterior components*
- *explaining the regulatory requirements to maintain exterior components*

Camper Tie-Down Systems And Jacks — 5 hours

- Describe the types and capacities of tie down systems
- Describe the types and capacities of camper jacks
- Describe the procedure for installing and servicing camper jacks
- Describe the procedure for installing and servicing tie down systems

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

- *explaining the function of exterior components, their characteristics and applications*
- *demonstrating the procedures to repair, install and maintain exterior components*

- *explaining the training and certification requirements to maintain exterior components*
- *explaining the regulatory requirements to maintain exterior components*

Section Six-Mechanical and Suspension Systems — 24 hours total

Suspension Aids — 16 hours

- Describe trailer frame types and features
- Describe types of suspension systems
- Describe the effect of add-on suspension aids
- Describe the effect of vehicle modifications on suspension operation
- Describe the procedure for installing suspension aids
- Describe the procedure for adjusting suspension aids
- Describe the procedure for servicing suspension aids

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

- *demonstrating the procedures to repair, install and maintain exterior components*
- *explaining the function of levelling systems, their characteristics and applications*
- *demonstrating the procedures to repair, install and maintain levelling systems*
- *de explaining the levelling systems, their characteristics and applications*
- *explaining the procedures to repair levelling systems*

Lift and Wall Systems — 8 hours

- Describe the types of lift systems
- Describe the operation of lift systems
- Describe the servicing of lift systems
- Describe the procedure for servicing wall systems

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

- *explaining the function of exterior components, their characteristics and applications*
- *demonstrating the procedures to repair, install and maintain exterior components*
- *explaining the training and certification requirements to maintain exterior components*
- *explaining the regulatory requirements to maintain exterior components*

Level Three — 8 weeks — 240 hours

Section One- Inverter and Solar Panels — 30 hours total

Solar Systems — 15 hours

- Describe the purpose of solar charging system components
- Describe the operation and application of solar charging systems
- Describe the procedure for installing solar charging systems
- Size a solar charging and battery system to meet customer requirements
- Describe the procedure for expanding a solar charging system to match higher requirements
- Describe the procedure for servicing a solar charging system

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

- *explaining the function of AC systems, and their components, characteristics and applications*
- *demonstrating the procedures to diagnose, maintain and repair AC systems and their components*
- *explaining the training and certification requirements to diagnose AC systems and their components*
- *explaining the regulatory requirements to maintain AC systems and their components*
- *explaining the function of DC systems and their components, characteristics and applications*
- *demonstrate knowledge of procedures to diagnose, maintain and repair DC systems and their components*
- *explaining the training and certification requirements to maintain DC systems and their components*
- *explaining the regulatory requirements to maintain DC systems and their components*

Inverter Systems — 15 hours

- Describe the purpose and operation of an inverter system
- Describe types of inverters and remote control panels
- Describe the procedure for installing an inverter system
- Calculate power draws, battery requirements, cable sizes and load protection devices
- Describe the procedure for servicing inverter systems

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

- *explaining the function of AC systems, and their components, characteristics and applications*
- *demonstrating the procedures to diagnose, maintain and repair AC systems and their components*
- *explaining the training and certification requirements to diagnose AC systems and their components*
- *explaining the regulatory requirements to maintain AC systems and their components*
- *explaining the function of DC systems and their components, characteristics and applications*
- *demonstrate knowledge of procedures to diagnose, maintain and repair DC systems and their components*
- *explaining the training and certification requirements to maintain DC systems and their components*
- *explaining the regulatory requirements to maintain DC systems and their components*

Section Two-Appliances — 80 hours total

Air Conditioning and Heat Pumps — 20 hours

- Describe the types of air conditioners and heat pumps
- Describe the purpose of air conditioner and heat pump components

- Describe types and operation of thermostats and climate controls
- Describe the procedure for servicing air conditioners and heat pump systems
- Describe the procedure for disposing, reclaiming and recycling refrigerants
- Describe codes for air conditioners and heat pumps

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

- *explaining the function of air conditioners and heat pumps, their components, characteristics and applications*
- *demonstrating the procedures to diagnose, maintain and repair air conditioners and heat pumps*
- *explaining the training and certification requirements to maintain air conditioners and heat pumps*
- *explaining the regulatory requirements to maintain air conditioners and heat pumps*

Refrigerators — 35 hours

- Describe the types and operation of refrigerators
- Describe the purpose of refrigerator components
- Describe the procedure for servicing refrigerators
- Describe codes related to refrigerators
- Service refrigerators

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

- *explaining the function of refrigerators and ice makers, their components characteristics and applications*
- *demonstrating the procedures to diagnose, maintain and repair refrigerators and ice makers*
- *explaining the certification requirements to maintain refrigerators and ice makers*
- *explaining the regulatory requirements to maintain refrigerators and ice makers*

Appliance Products — 10 hours

- Describe types of appliance and consumer products
- Describe the procedure for servicing appliances and consumer products
- Describe the procedure for installing appliance and consumer products

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

- *explaining the function of consumer products, their characteristics, applications and operation*
- *demonstrating the procedures to diagnose, maintain and repair consumer products*
- *explaining the training and certification requirements to repair consumer products*
- *explaining the regulatory requirements to repair consumer products*

Electronic Control Systems — 15 hours

- Describe the operation of electronic components
- Describe precautions required for handling electronics
- Service the wiring connection to an electronic component
- Describe common faults in electronic components
- Test electronic components

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

- *explaining the function of DC systems, their components, characteristics and applications*
- *demonstrating the procedures to diagnose, maintain and repair DC systems and their components*
- *explaining the training and certification requirements to diagnose DC systems and their components*
- *explaining the regulatory requirements to diagnose DC systems and their components*

Section Three- Interior Structures and Components — 30 hours total

Cabinets, Furnishings, and Flooring — 30 hours

- Describe the types of material used in counter top construction
- Describe the procedure for servicing countertops
- Describe the types of materials used in cabinet construction
- Describe the procedure for servicing cabinet structures
- Describe the procedure for servicing cabinet trim, doors and hardware
- Describe the procedure for servicing drawers and hardware
- Describe the procedure for servicing upholstery components
- Describe the procedure for servicing window coverings, blinds and valances
- Describe the procedure for servicing floor coverings
- Service interior components

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

- *explaining the function of interior components, their characteristics and applications*
- *demonstrating the procedures to diagnose, install, maintain and repair interior components*
- *explaining the training and certification requirements to diagnose interior components*
- *explaining the regulatory requirements to diagnose interior components*

Section Four- Slide Outs and Levelling Systems — 50 hours total

Hydraulic Systems — 15 hours

- Describe the function of hydraulic system components
- Describe hydraulic system operation, applications and testing
- Describe the procedure for servicing hydraulic system components
- Describe the procedure for adjusting hydraulic systems
- Describe safety procedures relating to hydraulic systems
- Test a hydraulic system

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

- *explaining the function of levelling systems, their characteristics and applications*
- *demonstrating the procedures to diagnose, maintain and repair levelling systems*

Slide Out Systems — 20 hours

- Describe the purpose of slide out system components
- Describe the operation of slide out systems
- Describe the procedure for servicing slide out systems
- Describe procedure for adjusting, removing and replacing slide out rooms

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

- *explaining the function of slide out systems, their characteristics and applications*
- *demonstrating the procedures to diagnose, maintain and repair slide-out systems, their characteristics and applications*

Levelling Systems — 15 hours

- Describe the purpose of levelling systems
- Describe types of levelling systems
- Describe the purpose of levelling system components
- Describe the operation of levelling systems
- Describe the procedure for installing levelling systems
- Describe the procedure for servicing levelling systems

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

- *explaining the function of levelling out systems, their characteristics and applications*
- *demonstrating the procedures to diagnose, maintain and repair levelling systems, their characteristics and applications*

Section Five- Auxiliary Fueling Systems and Specialty Haulers — 25 hours total

Auxiliary Fueling Systems — 15 hours

- Describe the properties of gasoline and diesel fuel
- Describe auxiliary fuel system components
- Describe the procedure for handling fuel
- Describe the procedure for dispensing fuel
- Identify codes for auxiliary fuel systems

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

- *explaining the function of generators, their components, characteristics and operation*
- *demonstrating the procedures to diagnose, maintain and repair generators*
- *explaining the training and certification requirements to diagnose, maintain and repair generators*
- *demonstrating the procedures to to diagnose LP gas supply systems (low and high pressure)*
- *explaining the certification requirements to diagnose LP gas supply systems (low and high pressure)*
- *explaining the regulatory requirements to diagnose, install service and repair LP gas supply systems (low and high pressure)*

Specialty Haulers — 10 hours

- Describe the purpose of speciality hauler components
- Describe the operation of specialty hauler components
- Describe the types of materials used in constructing speciality haulers
- Describe the design and ventilation requirements
- Describe codes and safety procedures relating to the servicing of speciality haulers

This section of training exceeds NOA scope of work in Level Three and exceeds the minimum sequencing as set out in the Recreation Vehicle Service Technician NOA. Its purpose is to assist in the understanding of specialty haulers and components.

Section Six- Welding, Coaching, Certification and Committees — 25 hours total

Gas Metal Arc Welding (GMAW) — 15 hours

- Describe the welding operations permitted within the scope of this trade
- Describe the function of GMAW components of GMAW equipment
- Describe the operation of GMAW equipment
- Describe troubleshooting of GMAW equipment
- Demonstrate material preparation
- Perform the sequence of start-up and shut down of GMAW equipment
- Perform tack welds using GMAW

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

- *explaining the function of welding equipment, characteristics, applications and procedures for use*
- *demonstrating the procedures to use welding equipment, characteristics, applications and procedures for use*
- *explaining the regulatory requirements to maintain safe work environment*

Workplace Coaching Skills — 4 hours

- Describe the process for coaching an apprentice

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

- *demonstrate strategies for learning skills in workplace*
- *demonstrate strategies for teaching workplace skills*

Alberta's Industry Network — 2 hours

- Describe Alberta's Apprenticeship and Industry Training system
- Describe roles and responsibilities of the Alberta Apprenticeship and Industry Training Board, the Government of Alberta and post-secondary institutions
- Describe roles and responsibilities of the Provincial Apprenticeship Committees (PACs), Local Apprenticeship Committees (LACs) and Occupational Committees (OCs)

This section of training exceeds NOA scope of work in Level Three and exceeds the minimum sequencing as set out in the Recreation Vehicle Service Technician NOA. Its purpose is to assist in the understanding of Alberta's Apprenticeship and Industry Training system.

Interprovincial Standards Red Seal Program — 4 hours

- Identify Red Seal products used to develop Interprovincial examinations
- Use Red Seal products to prepare for an Interprovincial examination

This section of training exceeds NOA scope of work in Level Three and exceeds the minimum sequencing as set out in the Recreation Vehicle Service Technician NOA. Its purpose is to assist in the understanding of an apprentice the steps to earn journeyperson certification with understanding of the Red Seal Program.

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
Saskatoon (306) 933-8476
Swift Current (306) 778-8945
Yorkton (306) 786-1394