

# Apprenticeship and Industry Training

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## Recreation Vehicle Service Technician Curriculum Guide

**0452 (2022)**



Apprenticeship  
and Industry  
Training

**ALBERTA ADVANCED EDUCATION**

Recreation Vehicle Service Technician: apprenticeship education program curriculum guide

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## Apprenticeship

Apprenticeship is post-secondary education with a difference. Apprenticeship begins with finding a sponsor. Sponsors guide apprentices, and support on-the-job learning through provision of mentorship. Approximately 80 per cent of an apprentice's time is spent on the job under the supervision of a certified journeyperson or qualified tradesperson. The other 20 per cent involves technical training provided at, or through, a post-secondary institution (PSI) – usually a college or technical institute.

To receive their post-secondary credential, apprentices must learn theory and skills, and they must pass examinations. Criteria for the program—including the content and delivery of technical training—are developed and updated by the Registrar.

The graduate of the Recreation Vehicle Service Technician apprenticeship program is an individual who will be able to:

- Apply standards and regulations relating to recreation vehicles
- Service Liquid Petroleum (LP) gas distribution systems and appliances
- Service plumbing and electrical systems
- Use tools and equipment
- Service exterior structural components, coverings and fixtures
- Service interior components and fixtures
- Service interior and exterior accessories
- Perform assigned tasks in accordance with quality and production standards required by industry.

## Apprenticeship and Industry Training System

Alberta's apprenticeship programs are supported by industry stakeholders that ensures a highly skilled, internationally competitive workforce in the province. The Registrar establishes the educational standards and provides direction to the system supported by industry and the PSI's. The Ministry of Advanced Education provides the legislative framework and administrative support for the apprenticeship and industry training system.

**Special thanks are offered to the following industry members who contributed to the development of the standard:**

Mr. D. Gordon ..... Calgary  
Mr. M. Murray ..... Spruce Grove  
Mr. T. Ransom ..... Red Deer  
Mr. R. Spencer ..... Balzac  
Mr. M. Glessing ..... Edmonton  
Mr. A. Hossack ..... Airdrie  
Mr. B. Lenz ..... Stettler

## Alberta Government

Alberta Advanced Education works with industry, sponsor and employee organizations and technical training providers to:

- facilitate industry's development and maintenance of training and certification standards
- provide registration and counselling services to apprentices and sponsors
- coordinate technical training in collaboration with training providers
- certify apprentices and others who meet industry standards

## **Apprenticeship Safety**

Safe working procedures and conditions, incident/injury prevention, and the preservation of health are of primary importance in apprenticeship programs in Alberta. These responsibilities are shared and require the joint efforts of government, sponsors, employees, apprentices and the public. Therefore, it is imperative that all parties are aware of circumstances that may lead to injury or harm.

Safe learning experiences and healthy environments can be created by controlling the variables and behaviours that may contribute to or cause an incident or injury. By practicing a safe and healthy attitude, everyone can enjoy the benefit of an incident and injury free environment.

## **Occupational Health and Safety**

Persons engaged in, or supporting an individual in an experiential learning environment are often exposed to more worksite hazards than in other forms of traditional post-secondary education and therefore should be familiar with and apply the Occupational Health and Safety Act, Regulations and Code when dealing with personal safety and the special safety rules that apply to all daily tasks.

Occupational Health and Safety-OHS (a division of Alberta Labour and Immigration) conducts periodic inspections of workplaces to ensure that safety regulations for industry are being observed.

Additional information is available at [www.alberta.ca/occupational-health-safety.aspx](http://www.alberta.ca/occupational-health-safety.aspx)

## **Technical Training**

Apprenticeship technical training is delivered by the PSI's throughout Alberta. The PSI's are committed to delivering the technical training component of Alberta apprenticeship programs in a safe, efficient and effective manner. All PSI's place a strong emphasis on safety that complements safe workplace practices towards the development of a culture of safety for all professions.

The PSI's work with industry and Alberta Advanced Education to enhance access and responsiveness to industry needs through the delivery of the technical training component of apprenticeship programs across the province. They develop curriculum from the curriculum guides established by the Registrar in consultation with the PSI's and industry and provide the technical training to apprentices.

The following PSI's deliver Recreation Vehicle Service Technician trade apprenticeship technical training:

Southern Alberta Institute of Technology (Mayland Heights Campus)

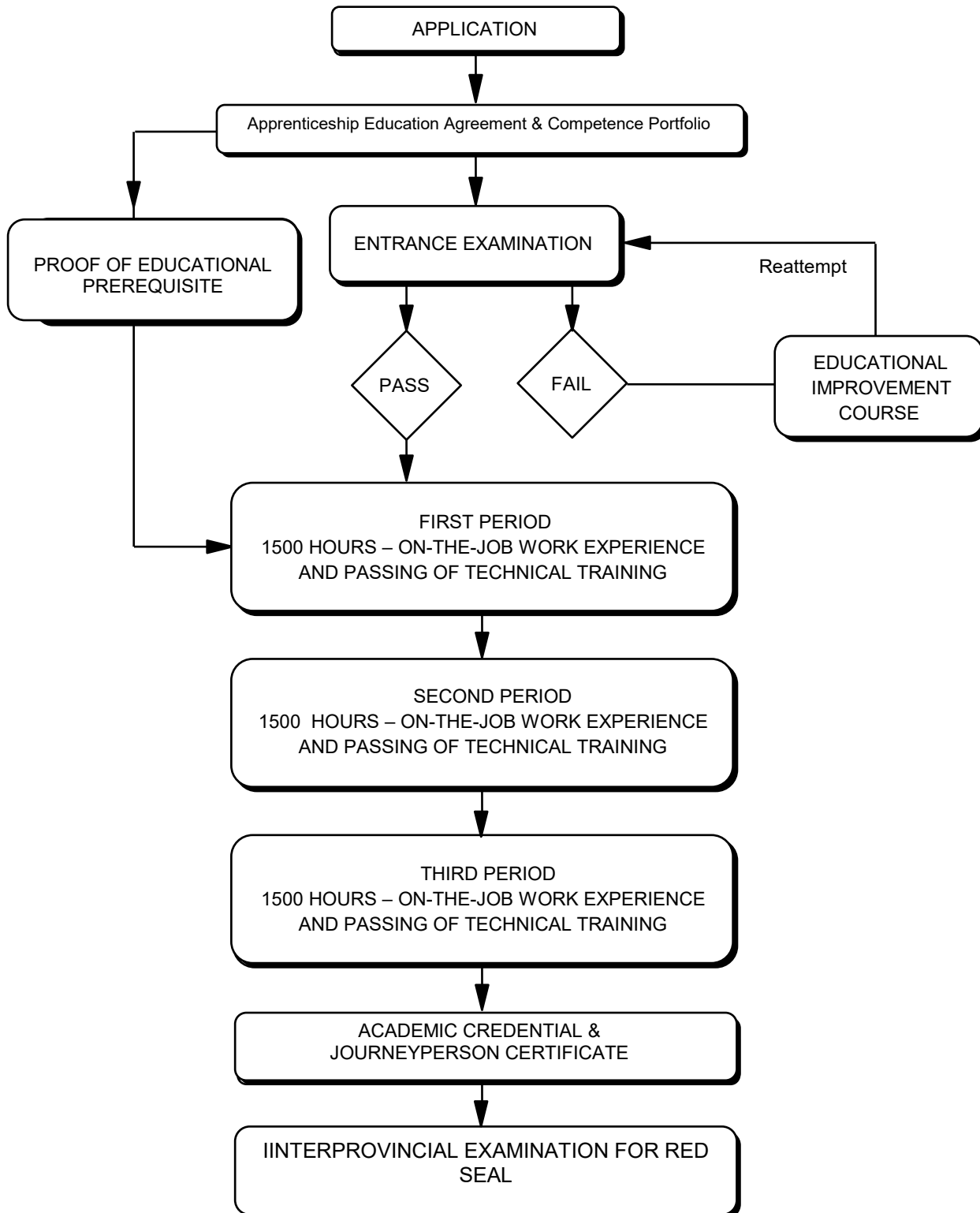
## **Procedures for Recommending Revisions to the Curriculum Guide**

Any concerned individual or group in the province of Alberta may make recommendations for change by writing to:

Registrar of Apprenticeship Programs  
c/o Apprenticeship Delivery and Industry Support Services  
Apprenticeship Delivery and Industry Support  
Advanced Education  
19th floor, Commerce Place  
10155 102 Street NW  
Edmonton AB T5J 4L5

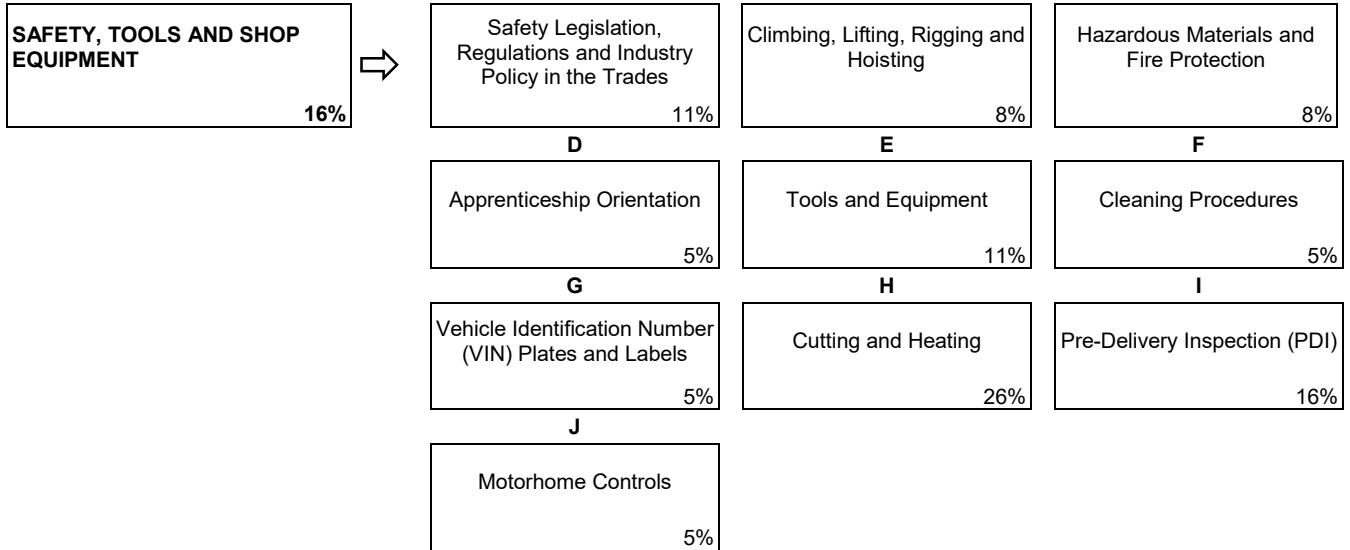
It is requested that recommendations for change refer to specific areas and state references used.

### Apprenticeship Route toward Academic Credential

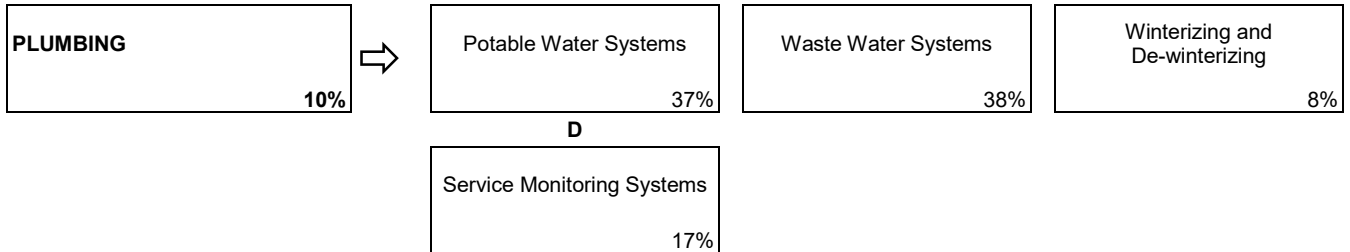


**Recreation Vehicle Service Technician Training Profile  
First Period  
(8 Weeks 30 Hours per Week – Total of 240 Hours)**

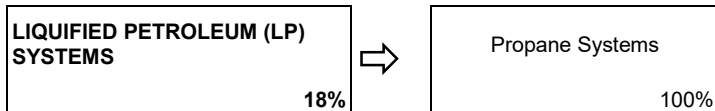
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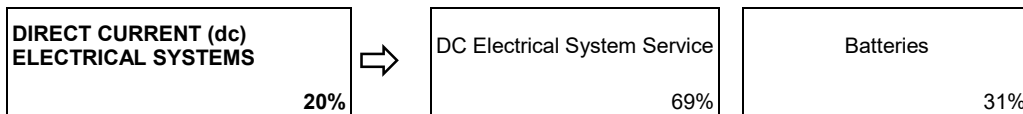
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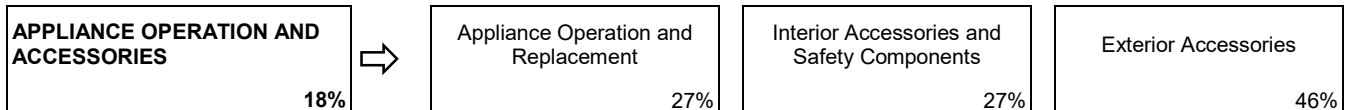
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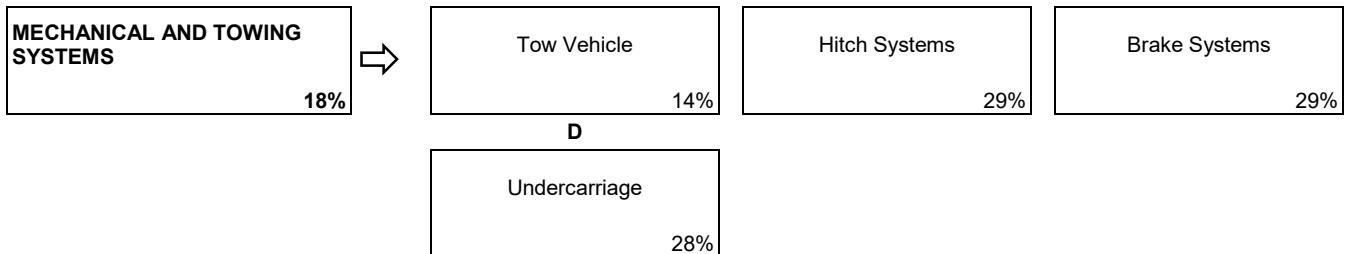
**SECTION FOUR**



**SECTION FIVE**



**SECTION SIX**



**Second Period  
(8 Weeks 30 Hours per Week – Total of 240 Hours)**

**SECTION ONE**

<b>STANDARD PRACTICES AND PROCEDURES</b> 10%	<b>A</b>	<b>B</b>	<b>C</b>
	Work Orders 17%	Estimating 42%	Warranty and Recall Procedures 8%
	<b>D</b>	<b>E</b>	
	Parts Catalogues and Related References 17%	Customer Relations 16%	

**SECTION TWO**

<b>ALTERNATING CURRENT (ac) ELECTRICAL SYSTEMS</b> 23%	<b>A</b>	<b>B</b>	<b>C</b>
	AC Electrical System Service 44%	Generators 37%	Convertors and Charging Systems 19%

**SECTION THREE**

<b>CONSUMER PRODUCTS</b> 10%	<b>A</b>
	Consumer Media Products 100%

**SECTION FOUR**

<b>APPLIANCES</b> 22%	<b>A</b>	<b>B</b>	<b>C</b>
	Cooking Equipment 9%	Water Heating Systems 25%	Heating Systems 66%

**SECTION FIVE**

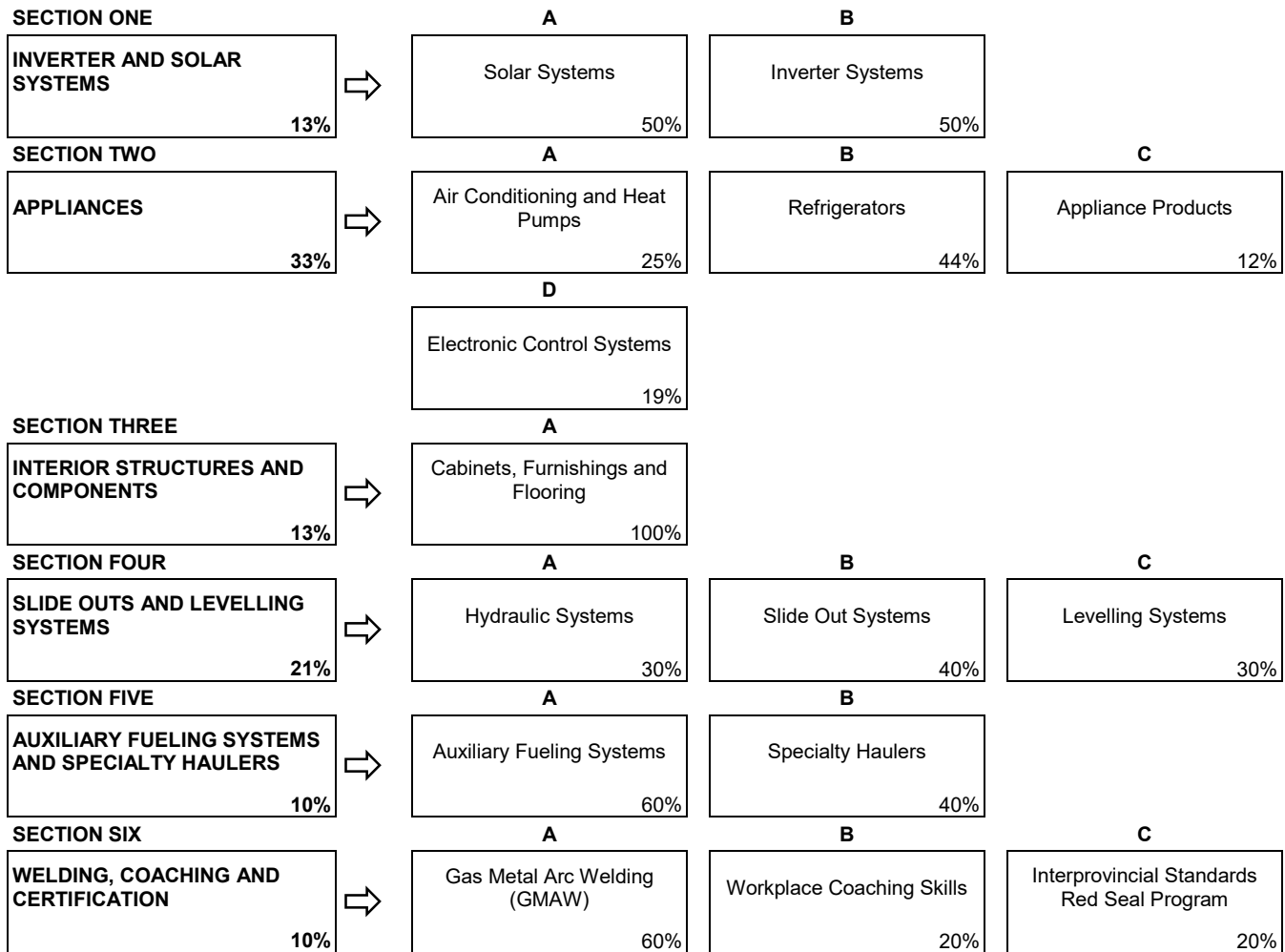
<b>EXTERIOR STRUCTURES</b> 25%	<b>A</b>	<b>B</b>	<b>C</b>
	Exterior Surfaces, Components and Structures 67%	Body Panels 25%	Camper Tie-Downs and Jacks 8%

**SECTION SIX**

<b>MECHANICAL AND SUSPENSION SYSTEMS</b> 10%	<b>A</b>	<b>B</b>
	Suspension Aids 67%	Lift and Wall Systems 33%



**Third Period  
(8 Weeks 30 Hours per Week – Total of 240 Hours)**



**FIRST PERIOD TECHNICAL TRAINING  
RECREATION VEHICLE SERVICE TECHNICIAN TRADE  
CURRICULUM GUIDE**

*UPON SUCCESSFUL COMPLETION OF THIS PROGRAM THE APPRENTICE SHOULD BE ABLE TO PERFORM THE FOLLOWING OUTCOMES AND OBJECTIVES.*

**SECTION ONE: ..... SAFETY, TOOLS AND SHOP EQUIPMENT ..... 16%**

**A. Safety Legislation, Regulations and Industry Policy in the Trades.....11%**

**Outcome:**     ***Apply legislation, regulations and practices ensuring safe work in this trade.***

1.     Demonstrate the application of the Occupational Health and Safety Act, Regulation and Code.
2.     Describe the sponsor'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.
3.     Describe industry practices for hazard assessment and control procedures.
4.     Describe the responsibilities of worker and sponsors to apply emergency procedures.
5.     Describe tradesperson attitudes with respect to housekeeping, personal protective equipment and emergency procedures.
6.     Describe the roles and responsibilities of sponsors and employees with the selection and use of personal protective equipment (PPE).
7.     Maintain required PPE for tasks.
8.     Use required PPE for tasks.

**B. Climbing, Lifting, Rigging and Hoisting ..... 8%**

**Outcome:**     ***Use industry standard practices for climbing, lifting, rigging and hoisting in this trade.***

1.     Describe manual lifting procedures.
2.     Describe rigging hardware and associated safety factors.
3.     Select equipment for rigging loads.
4.     Describe hoisting and load moving procedures.
5.     Maintain personal protective equipment (PPE) for climbing, lifting and load moving equipment.
6.     Use PPE for climbing, lifting and load moving equipment.

**C. Hazardous Materials and Fire Protection..... 8%**

**Outcome:**     ***Apply industry standard practices for hazardous materials and fire protection in this trade.***

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

**D. Apprenticeship Orientation.....5%****Outcome:     *Manage an apprenticeship to earn journeyperson certification.***

1. Describe the apprentice education agreement responsibilities of the apprentice, sponsor and Alberta Apprenticeship and Industry Training.
2. Describe the purpose of the apprentice competency portfolio.
3. Describe the procedure for changing sponsors during an active apprenticeship.
4. Describe the purpose of the curriculum guide.
5. Describe the procedure for progressing through an apprenticeship.
6. Describe advancement opportunities in this trade.

**E. Tools and Equipment ..... 11%****Outcome:     *Use tools and equipment.***

1. Describe the types and application of tools and equipment.
2. Describe the procedures for maintaining tools and equipment.
3. Maintain tools and equipment.
4. Use tools and equipment.

**F. Cleaning Procedures .....5%****Outcome:     *Clean recreation vehicles prior to servicing.***

1. Describe methods and products used for spot cleaning recreation vehicles.
2. Describe the hazards associated with cleaning products and procedures.

**G. Vehicle Identification Number (VIN) Plates and Labels .....5%****Outcome:     *Interpret information on VIN plates and labels.***

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

**H. Cutting and Heating ..... 26%****Outcome:     *Perform cutting and heating operations.***

1. Describe cutting and heating operations permitted within the scope of this trade.
2. Describe the characteristics and handling of cutting and heating gases.
3. Describe the components of cutting and heating equipment.
4. Perform a leak check on cutting and heating equipment.
5. Describe the procedure for adjusting cutting and heating equipment.
6. Demonstrate the procedure for storing and maintaining cutting and heating equipment.
7. Perform cutting and heating operations.

I. **Pre-Delivery Inspection (PDI)**..... 16%

**Outcome:** *Perform pre-delivery inspections (PDI).*

1. Describe the purpose of a PDI.
2. Describe PDI procedures.
3. Describe the purpose of PDI documentation.
4. Describe PDI tasks specific to recreation vehicle designs.
5. Perform a PDI.

J. **Motorhome Controls**.....5%

**Outcome:** *Operate motorhome specific controls.*

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

**SECTION TWO: PLUMBING** ..... 10%

A. **Potable Water Systems** ..... 37%

**Outcome:** *Service potable water systems.*

1. Describe the components and operation of potable water systems.
2. Describe the procedure for installing and servicing potable water systems.
3. Identify codes for potable water systems.
4. Service potable water systems.

B. **Waste Water Systems**..... 38%

**Outcome:** *Service waste water systems.*

1. Describe the components and operation of waste water systems.
2. Describe the procedure for installing and servicing waste water systems.
3. Identify codes for waste water systems.
4. Service waste water systems.

C. **Winterizing and De-winterizing**.....8%

**Outcome:** *Perform winterizing and de-winterizing of plumbing systems.*

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

**D. Service Monitoring Systems..... 17%**

**Outcome: Service monitoring systems.**

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

**SECTION THREE: .....LIQUIFIED PETROLEUM GAS (LP) SYSTEMS..... 18%**

**A. Propane Systems ..... 100%**

**Outcome: Service propane systems.**

1. Describe the properties of propane.
2. Describe safety procedures for working with propane.
3. Describe the types and applications of propane storage vessels.
4. Describe the requirements for inspecting, recertifying and filling propane storage vessels.
5. Describe the purpose of propane system components.
6. Describe the operation of propane system components.
7. Describe the operation of leak detectors.
8. Identify codes for propane systems.
9. Perform a leak and pressure test.
10. Perform operations to make connections in propane systems.
11. Adjust a propane regulator.

**SECTION FOUR: .....DIRECT CURRENT (dc) ELECTRICAL SYSTEMS ..... 20%**

**A. DC Electrical Systems ..... 69%**

**Outcome: Service direct current (dc) electrical systems.**

1. Describe electrical principles.
2. Describe the function and operation of dc circuits and circuit components.
3. Describe the use of schematics in servicing dc electrical systems.
4. Construct dc electrical circuits.
5. Identify codes for dc electrical systems.
6. Service dc components and circuits.

**B. Batteries .....31%**

**Outcome: Perform battery servicing and boosting.**

1. Identify the types and application of batteries.
2. Describe the principles of battery operation.
3. Describe the procedure for storing and installing batteries.
4. Describe the procedure for testing, recharging and boosting batteries.
5. Identify the types of battery disconnect devices and systems.

**SECTION FIVE:..... APPLIANCES AND ACCESSORIES ..... 18%****A. Appliance Operation and Replacement..... 27%****Outcome:     *Perform replacement of appliances.***

1.     Describe the general operation of RV appliances.
2.     Describe the precautions and procedures for removing and installing RV appliances.

**B. Interior Accessories and Safety Components ..... 27%****Outcome:     *Service interior accessories and safety components.***

1.     Describe the purpose of interior accessories and safety components.
2.     Describe the operation of interior accessories and safety components.
3.     Describe the procedure for installing and servicing interior accessories and safety components.

**C. Exterior Accessories ..... 46%****Outcome:     *Service exterior accessories.***

1.     Describe the procedure for installing and servicing awnings.
2.     Describe the procedure for installing and servicing screen rooms.
3.     Describe the procedure for installing aftermarket/optional exterior accessories.
4.     Describe the procedure for installing and servicing back-up alarms and monitoring devices.
5.     Describe the procedure for installing and servicing steps.

**SECTION SIX:..... MECHANICAL AND TOWING SYSTEMS ..... 18%****A. Tow Vehicle. .... 14%****Outcome:     *Wire a vehicle for towing.***

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

**B. Hitch Systems ..... 29%****Outcome:     *Install hitch and tow systems.***

1.     Describe the types and application of hitch and tow systems.
2.     Describe the procedure for installing and adjusting hitch and tow systems.
3.     Describe the types and application of sway control devices.
4.     Describe the purpose and requirements for safety chains.
5.     Describe methods, regulations and applications for dinghy towing.

**C. Brake Systems ..... 29%****Outcome:     *Service brake systems and components.***

1.     Describe the components and operation of brake systems.
2.     Describe the procedure for installing a tow vehicle brake control system.
3.     Service brake systems and components.

**D. Undercarriage..... 28%****Outcome:      *Service trailer frames, undercarriage and components.***

1.      Describe the purpose of undercarriage components.
2.      Describe the construction of trailer frames.
3.      Describe axle types, suspension systems and weight ratings.
4.      Describe the procedure for aligning an axle.
5.      Describe wheel and tire types and ratings.
6.      Describe tire wear patterns and causes.
7.      Describe types of landing gear and trailer tongue jacks.
8.      Describe the procedure for servicing landing gear and trailer tongue jacks.
9.      Perform wheel and tire balance.
10.     Service wheel bearings and seals.

**SECOND PERIOD TECHNICAL TRAINING  
RECREATION VEHICLE SERVICE TECHNICIAN TRADE  
CURRICULUM GUIDE**

UPON SUCCESSFUL COMPLETION OF THIS PROGRAM THE APPRENTICE SHOULD BE ABLE TO PERFORM THE FOLLOWING OUTCOMES AND OBJECTIVES.

**SECTION ONE:.....STANDARD PRACTICES AND PROCEDURES..... 10%**

**A. Work Orders ..... 17%**

**Outcome: Prepare a work order.**

1. Describe purpose and types of work orders.
2. Describe procedure for documenting parts, labour and shop supplies.

**B. Estimating ..... 42%**

**Outcome: Perform an estimate.**

1. Describe the purpose and types of estimates.
2. Describe estimating policies and procedures.
3. Perform an estimate.

**C. Warranty and Recall Procedures ..... 8%**

**Outcome: Apply warranty policies, recalls and service bulletins.**

1. Describe warranty policies and procedures.
2. Describe the procedure for processing recalls and service bulletins.

**D. Parts Catalogues and Related References ..... 17%**

**Outcome: Use parts catalogues and related references.**

1. Describe the purpose and types of parts catalogues and related references.
2. Describe the procedure for using parts catalogues and related references.

**E. Customer Relations ..... 16%**

**Outcome: Conduct business in a way that will build customer relations and present a professional image.**

1. Describe how to provide courtesy to a customer and project a professional image.
2. Identify how to address customer needs and expectations.
3. Describe expectations for professional conduct during customer communications.

**SECTION TWO:..... ALTERNATING CURRENT (ac) ELECTRICAL SYSTEMS ..... 23%**

**A. AC Electrical System Service..... 44%**

**Outcome: Service ac electrical systems and components.**

1. Describe the difference between ac and dc circuits.
2. Describe safety precautions used when servicing ac electrical systems.



- 3. Describe the purpose and operation of ac circuit components.
- 4. Describe the purpose and operation of Energy Management Systems.
- 5. Describe codes for ac electrical systems.
- 6. Test ac circuits and protection devices.

**B. Generators..... 37%**

**Outcome: Service generators.**

- 1. Describe safety hazards associated with generators.
- 2. Calculate output requirements for generators.
- 3. Describe the procedure for installing generators.
- 4. Describe codes for generator systems.
- 5. Describe the procedure for servicing generators.
- 6. Test generator output.

**C. Converters and Charging Systems..... 19%**

**Outcome: Service converters, power centers and charging systems.**

- 1. Describe types of converters and charging systems.
- 2. Describe the operation of converters and charging systems.
- 3. Describe the operation of power centers.
- 4. Describe the procedure for servicing converters, power centers and charging systems.
- 5. Calculate convertor requirements.

**SECTION THREE: ..... CONSUMER PRODUCTS ..... 10%**

**A. Consumer Media Products ..... 100%**

**Outcome: Service consumer media products.**

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

**SECTION FOUR: ..... APPLIANCES ..... 22%**

**A. Cooking Equipment..... 9%**

**Outcome: Service cooking equipment.**

- 1. Describe the types of cooking equipment.
- 2. Describe the purpose and operation of cooking equipment components.
- 3. Describe codes relating to cooking equipment.
- 4. Describe the procedure for servicing cooking equipment.

**B. Water Heating Systems..... 25%**

**Outcome: Service water heating systems and components.**

1. Describe the types of water heating systems.
2. Describe the purpose and operation of water heating system components.
3. Describe codes for water heating systems.
4. Service water heating systems.

**C. Heating Systems..... 66%**

**Outcome: Service heating systems.**

1. Describe the types and operation of heating systems.
2. Describe the purpose and operation of heating systems components.
3. Describe the types and operation of thermostats and climate controls.
4. Describe codes for heating systems.
5. Describe the procedure for servicing heating systems.

**SECTION FIVE: ..... EXTERIOR STRUCTURES ..... 25%**

**A. Exterior Surfaces, Components and Structures ..... 67%**

**Outcome: Service exterior surfaces, components and structures.**

1. Describe framing and insulating methods, materials and design.
2. Describe the types of exterior finishes.
3. Describe the procedure for servicing framing.
4. Describe the procedure for servicing exterior components.
5. Describe the procedure for replacing fiber reinforced plastic (FRP).
6. Describe the types of material used in windows.
7. Describe the types of roof construction.
8. Describe the procedure for servicing roofing systems.
9. Describe the procedure for preparing units for cold weather use.
10. Describe the design and construction of slide-out rooms.
11. Describe the procedure for servicing interior walls, ceiling coverings and panels.
12. Identify codes relating to the servicing of exterior structures.
13. Replace metal siding.
14. Service structural and exterior components.

**B. Body Panels ..... 25%**

**Outcome: Prepare body panels for repair.**

1. Describe the composition of body panels and components.
2. Describe the procedure for servicing FRP, fibre glass panels and components.
3. Describe the procedure for servicing plastic components.
4. Describe the procedure for installing and replacing decals and graphics.

C. Camper Tie-Downs and Jacks..... 8%

**Outcome:** Service camper tie down systems and jacks.

1. Describe the types and capacities of tie down systems.
2. Describe the types and capacities of camper jacks.
3. Describe the procedure for installing and servicing camper jacks.
4. Describe the procedure for installing and servicing tie down systems.

SECTION SIX:..... MECHANICAL AND SUSPENSION SYSTEMS ..... 10%

A. Suspension Aids..... 67%

**Outcome:** Service suspension aids.

1. Describe trailer frame types and features.
2. Describe types of suspension systems.
3. Describe the effect of add-on suspension aids.
4. Describe the effect of vehicle modifications on suspension operation.
5. Describe the procedure for installing suspension aids.
6. Describe the procedure for adjusting suspension aids.
7. Describe the procedure for servicing suspension aids.

B. Lift and Wall System ..... 33%

**Outcome:** Service lift and wall systems.

1. Describe the types of lift systems.
2. Describe the operation of lift systems.
3. Describe the servicing of lift systems.
4. Describe the procedure for servicing wall systems.

**THIRD PERIOD TECHNICAL TRAINING  
RECREATION VEHICLE SERVICE TECHNICIAN TRADE  
CURRICULUM GUIDE**

UPON SUCCESSFUL COMPLETION OF THIS PROGRAM THE APPRENTICE SHOULD BE ABLE TO PERFORM THE FOLLOWING OUTCOMES AND OBJECTIVES.

**SECTION ONE:.....INVERTER AND SOLAR SYSTEMS ..... 13%**

**A. Solar Systems ..... 50%**

**Outcome: Service solar systems and components.**

1. Describe the purpose of solar charging system components.
2. Describe the operation and application of solar charging systems.
3. Describe the procedure for installing solar charging systems.
4. Size a solar charging and battery system to meet customer requirements.
5. Describe the procedure for expanding a solar charging system to match higher requirements.
6. Describe the procedure for servicing a solar charging system.

**B. Inverter Systems..... 50%**

**Outcome: Service inverter systems.**

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

**SECTION TWO:.....APPLIANCES ..... 33%**

**A. Air Conditioners and Heat Pumps ..... 25%**

**Outcome: Service air conditioners and heat pumps.**

1. Describe the types of air conditioners and heat pumps.
2. Describe the purpose of air conditioner and heat pump components.
3. Describe types and operation of thermostats and climate controls.
4. Describe the procedure for servicing air conditioners and heat pump systems.
5. Describe the procedure for disposing, reclaiming and recycling refrigerants.
6. Describe codes for air conditioners and heat pumps.

**B. Refrigerators ..... 44%**

**Outcome: Service refrigerators.**

1. Describe the types and operation of refrigerators.
2. Describe the purpose of refrigerator components.
3. Describe the procedure for servicing refrigerators.
4. Describe codes related to refrigerators.
5. Service refrigerators.

**C. Appliance Products ..... 12%**

**Outcome: Install appliances and consumer products.**

1. Describe types of appliance and consumer products.
2. Describe the procedure for servicing appliances and consumer products.
3. Describe the procedure for installing appliance and consumer products.

**D. Electronic Control Systems ..... 19%**

**Outcome: Service electronic control systems.**

1. Describe the operation of electronic components.
2. Describe precautions required for handling electronics.
3. Service the wiring connection to an electronic component.
4. Describe common faults in electronic components.
5. Test electronic components.

**SECTION THREE: ..... INTERIOR STRUCTURES AND COMPONENTS ..... 13%**

**A. Cabinets, Furnishings and Flooring ..... 100%**

**Outcome: Service cabinets, furnishings and flooring.**

1. Describe the types of material used in counter top construction.
2. Describe the procedure for servicing countertops.
3. Describe the types of materials used in cabinet construction.
4. Describe the procedure for servicing cabinet structures.
5. Describe the procedure for servicing cabinet trim, doors and hardware.
6. Describe the procedure for servicing drawers and hardware.
7. Describe the procedure for servicing upholstery components.
8. Describe the procedure for servicing window coverings, blinds and valances.
9. Describe the procedure for servicing floor coverings.
10. Service interior components.

**SECTION FOUR: ..... SLIDE OUTS AND LEVELLING SYSTEMS..... 21%**

**A. Hydraulic Systems ..... 30%**

**Outcome: Service hydraulic systems and components.**

1. Describe the function of hydraulic system components.
2. Describe hydraulic system operation, applications and testing.
3. Describe the procedure for servicing hydraulic system components.
4. Describe the procedure for adjusting hydraulic systems.
5. Describe safety procedures relating to hydraulic systems.
6. Test a hydraulic system.

**B. Slide Out Systems ..... 40%**

**Outcome: Service slide out systems and components.**

1. Describe the purpose of slide out system components.
2. Describe the operation of slide out systems.
3. Describe the procedure for servicing slide out systems.
4. Describe procedure for adjusting, removing and replacing slide out rooms.

**C. Levelling Systems ..... 30%**

**Outcome: Service levelling systems and components.**

1. Describe the purpose of levelling systems.
2. Describe types of levelling systems.
3. Describe the purpose of levelling system components.
4. Describe the operation of levelling systems.
5. Describe the procedure for installing levelling systems.
6. Describe the procedure for servicing levelling systems.

**SECTION FIVE: .....AUXILIARY FUELING SYSTEMS AND SPECIALTY HAULERS..... 10%**

**A. Auxiliary Fueling Systems ..... 60%**

**Outcome: Service auxiliary fuel systems.**

1. Describe the properties of gasoline and diesel fuel.
2. Describe auxiliary fuel system components.
3. Describe the procedure for handling fuel.
4. Describe the procedure for dispensing fuel.
5. Identify codes for auxiliary fuel systems.

**B. Specialty Haulers ..... 40%**

**Outcome: Service specialty haulers.**

1. Describe the purpose of speciality hauler components.
2. Describe the operation of speciality hauler components.

3. Describe the types of materials used in constructing speciality haulers.
4. Describe the design and ventilation requirements.
5. Describe codes and safety procedures relating to the servicing of speciality haulers.

**SECTION SIX:..... WELDING, COACHING AND CERTIFICATION ..... 10%**

**A. Gas Metal Arc Welding (GMAW) ..... 60%**

**Outcome: Perform GMAW welding operations**

1. Describe the welding operations permitted within the scope of this trade.
2. Describe the function of GMAW components of GMAW equipment.
3. Describe the operation of GMAW equipment.
4. Describe troubleshooting of GMAW equipment.
5. Demonstrate material preparation.
6. Perform the sequence of start-up and shut down of GMAW equipment.
7. Perform tack welds using GMAW.

**B. Workplace Coaching Skills..... 20%**

**Outcome: Use coaching skills when training an apprentice.**

1. Describe the process for coaching an apprentice.

**C. Interprovincial Standards Red Seal Program ..... 20%**

**Outcome: Use Red Seal products to challenge an Interprovincial exam.**

1. Identify Red Seal products used to develop Interprovincial examinations.
2. Use Red Seal products to prepare for an Interprovincial examination.



# Apprenticeship and Industry Training

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