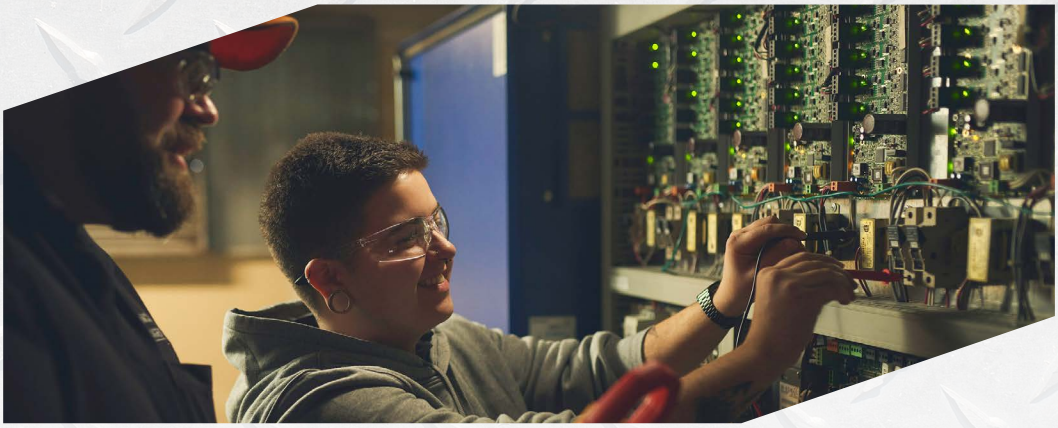
Curriculum Standard Plan of Training

Power Sport Technician

June 2024



Newfoundland & Labrador

PLAN OF TRAINING

Power Sport Technician

June 2024

Newfoundland & Labrador

Government of Newfoundland and Labrador
Department of Immigration, Population Growth and Skills
Apprenticeship and Trades Certification Division

Approved by:

Chairperson, Provincial Apprenticeship and Certification Board

Date: July 9, 2024

Preface

This curriculum standard describes the curriculum content for the Power Sport Technician apprenticeship training program.

Acknowledgements

The Provincial Trade Advisory Committee (PTAC), industry representatives, instructors and apprenticeship staff provided valuable input to the development of this provincial plan of training. Without their dedication to quality apprenticeship training, this document could not have been produced.

We offer a sincere thank you.

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Document Status	Date Approved	Mandatory Implementation Date	Comments
Approved - Final	June 2024	January 2025	New NLCS version & change to trade name

Table of Contents

A. Program Structure

For each and every course, a formal assessment is required for which 70% is the pass mark. A mark of 70% must be attained in both the theory examination and the practical project assignment, where applicable.

The order of course delivery within each level can be determined by the educational agency, as long as pre-requisite conditions are satisfied.

Upon completion of an entry level program, individuals may be required to complete other certifications (employer or job site specific) in order to gain employment.

Level 1				
Course No.	**AACS No.**	**Course Name**	**Hours**	**Pre-Requisite(s)**
TS1195	-	Shop Fundamentals	30	None
TS1220	-	Precision Measurement	30	None
MP1445	-	Electrical and Electronic Basic Principles	30	TS1195 SR1120
SR1120	-	Service Information Systems	30	None
SR1145	-	Lubrication Systems	30	TS1195 SR1120
SR1225	-	Power Sport Engines	30	None
SR1235	-	Power Sport Starting and Charging Systems	30	MP1445
SR1245	-	Ignition Systems	30	MP1445
SR1335	-	Gas Injection Systems	30	MP1445
SR1345	-	Carburetted Fuel Systems	30	None
SR1425	-	Power Sport Cooling Systems	30	TS1195 SR1120
SR1431	-	Emission Control Systems	30	SR1245 SR1335 SR1345
Total Hours			360	

REQUIRED
WORK EXPERIENCE

Level 2				
Course No.	**AACS No.**	**Course Name**	**Hours**	**Pre-Requisite(s)**
SR2100	-	Lawn & Garden Equipment Servicing Fundamentals	45	Level 1
SR2200	-	Snowmobile Servicing Fundamentals	60	Level 1
SR2301	-	Motorcycle Servicing Fundamentals	30	Level 1
SR2302	-	ATV Servicing Fundamentals	30	Level 1
SR2401	-	Marine Equipment Servicing Fundamentals	75	Level 1
Total Hours			240	

REQUIRED
WORK EXPERIENCE

Level 3				
Course No.	**AACS No.**	**Course Name**	**Hours**	**Pre-Requisite(s)**
SR1500	-	Small Equipment Transmissions	120	Level 2
SR2310	-	Motorcycle & ATV Troubleshooting & Repair	120	Level 2
Total Hours			240	

REQUIRED
WORK EXPERIENCE

Level 4				
Course No.	**AACS No.**	**Course Name**	**Hours**	**Pre-Requisite(s)**
SR2111	-	Lawn & Garden Equipment, Troubleshooting & Repair	70	Level 3
SR2210	-	Snowmobile Troubleshooting & Repair	80	Level 3
SR2411	-	Marine Equipment Troubleshooting & Repair	90	Level 3
Total Hours			240	

Total Course Credit Hours	1080

Level 1

TS1195 Shop Fundamentals

Learning Outcomes:

- Demonstrate a knowledge of the need for safety regulations in the operation and maintenance of shop tools, equipment and facilities.
- Demonstrate an appreciation for environmental protection.

Duration: 30 Hours

Pre-Requisite(s): None

Objectives and Content:

1. Identify safe working habits.
   - i. purpose and maintenance of personal safety equipment
   - ii. respect noise level regulations
   - iii. identify potential hazards to personal safety
   - iv. check for unsafe conditions
   - v. reporting of accidents

2. Identify fire hazards.
   - i. fire hazards
     - classifications of fire types
     - purpose and use of fire extinguishers
   - ii. explosions
     - spontaneous combustion
     - storage and handling of fuels
   - iii. ventilation and hazardous gases
     - carbon monoxide
     - storage batteries

3. Describe procedures to select and use hand tools.
   - i. pliers
   - ii. screwdrivers
   - iii. wrenches
   - iv. hammers and mallets
   - v. gripping tools
   - vi. ratcheting tools

4. Describe the procedures to select and use tubing, fittings and flaring tools.
   - i. single and double flaring
   - ii. ISO flaring

iii. measure and cut tubing
iv. double flare union

5. Describe the procedures to select and use cutting tools.
   i. punches
   ii. chisels
   iii. files
   iv. saws
   v. sharpen chisels
   vi. sharpen drill bits
   vii. maintain and store cutting tools

6. Describe the procedures to select and use threading devices.
   i. taps
   ii. dye
   iii. thread restorers
   iv. thread inserts
   v. extractors
   vi. tap and drill chart

7. Describe the procedures to select and use fasteners.
   i. rivets
   ii. sheet metal screws
   iii. bolts
   iv. nuts
   v. washers
   vi. torque procedures
   vii. bolt grades
   viii. keys and pins
   ix. c-clips and snap rings
   x. plastic fastening devices

8. Describe the procedures to select, use and maintain shop equipment.
   i. pullers
   ii. drivers
   iii. presses
   iv. portable power tools
   v. power cleaning equipment
   vi. portable crane
   vii. jacks
   viii. chain hoist
   ix. solvent cleaning tanks
   x. winches

9. Describe the procedures to drill materials.
   i. operation of power drilling equipment
   ii. selection and use cutting fluids
   iii. identify and selection of clamping devices
   iv. maintenance of drilling equipment

10. Describe the procedures to grind and finish metals.
   i. installation of grinding wheel disc and brush
   ii. adjustment of tool rest
   iii. dressing a grinding wheel
   iv. operation of stationary and portable grinders
   v. maintenance of equipment
   vi. identification and use of abrasives

11. Describe the procedures to use and maintain compressed air systems.

Practical Requirements:

1. Locate fire exits, fire alarms.

2. Locate shop ventilation system.

3. Prepare a floor plan showing fire exit routes.

4. Use hand and shop tools for Power Sport while working on bench projects.

5. Identify and use common fasteners.

TS1220 Precision Measurement

Learning Outcomes:

- To demonstrate an understanding of the skills and knowledge required for making precision measurements.

Duration: 30 Hours

Pre-Requisite(s): None

Objectives and Contents:

1. Describe the procedures to select and use semi-precision measuring tools.
   - i. combination set
   - ii. steel rule
   - iii. dividers
   - iv. measuring tape
   - v. angle gauge
   - vi. straight edges

2. Describe the procedures to select and use precision measuring tools.
   - i. micrometers (all types)
   - ii. Vernier calipers (all types)
   - iii. surface plates (all types)
   - iv. telescopic gauges
   - v. small hole gauges
   - vi. depth gauges
   - vii. dial indicators (all types)
   - viii. v-blocks
   - ix. cylinder bore gauge
   - x. torque wrench
   - xi. feeler gauges

3. Solve problems on Imperial/Metric conversions.

Practical Requirements:

1. Measure outside and inside diameters of a given object.
2. Measure projection and depth of a given object.
3. Measure runout, endplay and backlash on given object.
4. Maintain measuring tools as required by the manufacture.

MP1445 Electrical & Electronic Basic Principles

Learning Outcomes:

- Demonstrate the ability to apply basic electrical and electronic principles.

Duration: 30 Hours

Pre-requisite(s): TS1195, SR1120

Objectives and content:

1. Describe basic electrical principles.
   - i. safety practices and procedures working with electrical equipment
   - ii. terminology - abbreviations and glossary of electrical terms
   - iii. sources of electricity
     - generation of electricity
     - use of chemical, magnetism, heat, light and DC power supply
     - theory and laws of electricity
     - theory and laws of magnetism and inductance
   - iv. ohms law - volts, ohms and amperes
   - v. symbols and schematics - common electrical symbols
     - read schematics/wiring diagrams

2. Describe the application of electrical principles using ohms law to calculate volts, ohms, watts and amperes.
   - i. application of Ohms Law to electrical circuits
     - series circuit
     - parallel circuit
     - series and parallel circuit

3. Use instruments to test components of series, parallel and series parallel circuits to determine cause of malfunctions in an electrical circuit.
   - i. circuit testing devices
     - applications of volt, ohm and ammeters
     - meter ranges
     - correct hookup of meters
     - test lights, circuit breakers
   - ii. circuit problems and testing problems
     - short, open and grounds
     - diagnostic trouble shooting procedures
     - testing procedures and equipment

4. Describe the procedures for wire repair.
   i. soldering
   ii. crimping
   iii. terminal removal tools
   iv. heat shrink
   v. neoprene sealers

5. Identify electronic components, their purpose and uses.
   i. wires and terminals
      - types and sizes
      - terminals and connectors
      - conductors, semi-conductors and insulators
   ii. electronic control modules
      - identification
      - purpose
      - uses
   iii. voltage regulators

6. Describe fly-by-wire control systems.
   i. steering
   ii. throttle
   iii. shifting

Practical Requirements:

1. Read schematics and wiring diagrams.

2. Use circuit testing devices.
   i. ammeter
   ii. ohmmeter
   iii. voltmeter
   iv. test lights
   v. peak voltage meter

3. Apply Ohms Law to electrical circuit.

4. Identify wires and terminals.
   i. demonstrate back probing
   ii. complete a wire repair

5. Test electronic circuit.

SR1120 Service Information Systems

Learning Outcomes:

- Demonstrate the ability to select and use different types of service manuals found in the Power Sport Repair industry.

Duration: 30 Hours

Pre-requisite(s): None

Objectives and Content:

1. Identify the procedures to use operator's manual.
   i. methods of using
   ii. interpretation of sections

2. Identify the procedures to use service manual.
   i. methods of using
   ii. interpretation of sections

3. Identify the procedures to use parts manual.
   i. methods of using
   ii. interpretation of sections

4. Identify the procedures to use special bulletins.
   i. methods of using
   ii. purpose
   iii. interpretation

5. Introduction to computerized information systems.
   i. computerized parts information
   ii. computerized service and repair information
   iii. other online resources

6. Identify the procedures to use computerized information systems.
   i. work order
   ii. warranty claims
   iii. time ticket
   iv. tracking procedures

Practical Requirements:

1. Find serial number and decode on the following items.
   i. chassis
   ii. engine
   iii. transmission

2. With the appropriate manual, find the type and amount of engine oil recommended on an all-terrain vehicle.

3. With the appropriate manual find the step-by-step removal procedure of the engine and transmission of a motorcycle.

4. With the appropriate manual, create a parts list of a cylinder head.

SR1145 Lubrication Systems

Learning Outcomes:

- Demonstrate the skills and knowledge required for maintaining and repairing lubrication systems.
- Demonstrate the ability to use service information effectively.
- Demonstrate the use of safety practices in potentially harmful situations.
- Demonstrate an appreciation for environmental protection.

Duration: 30 Hours

Pre-Requisite(s): TS1195, SR1120

Objectives and content:

1. Describe the types, qualities, characteristics, and classifications of engine oils.

2. Describe the functions of engine oils.

3. Describe contaminants and explain their effects.

4. Explain the operation of lubrication systems.
   i. splash
   ii. pressure

5. Describe the types and explain the purpose of lubricating oil filters.

6. Describe the types and explain the operation of lubricating pumps.
   i. gear
   ii. vane
   iii. rotor
   iv. electric

7. Describe the types and explain the operation of valves and components.
   i. pressure relief
   ii. check

8. Describe the types and explain the operation of lubrication oil coolers.

9. Describe the procedures to identify and service lubrication systems charts for pre-mixing.
   i. oil filters and check for leaks
   ii. oil level
   iii. oil pressure

iv. dirty oil tank
v. oil for contamination
vi. engine oil
vii. maintain appropriate service records

10. Describe the procedures to service oil filters.
    i. replace oil filters
    ii. gaskets and "o" rings and filter
    iii. fill and bleed system

11. Describe the procedures to service a lubricating oil pump.
    i. identify, remove and disassemble oil pumps
    ii. inspect and identify worn components
    iii. replace, prime and test on engine
    iv. identify and adjust two-cycle oil pumps
    v. test oil pressure

12. Describe the procedures to service lubricating oil coolers.
    i. clean, inspect components
    ii. o-rings, gaskets and seals

Practical Requirements:

1. Perform an oil pressure check on an engine.

2. Remove, clean, inspect and replace an oil filter.

3. Remove, clean, inspect and replace a pressure relief or check valve and components.

4. Remove, clean, inspect and replace oil pump.

SR1225 Power Sport Engines

Learning Outcomes:

- Demonstrate the skills and knowledge required to perform routine servicing on light duty engines.
- Demonstrate the ability to use service information effectively.
- Demonstrate the use of safety practices in potentially harmful situations.

Duration: 30 Hours

Pre-Requisite(s): None

Objectives and Content:

1. Describe the procedures to set valve timing.
   i. replace timing belt/chain
   ii. valve timing
   iii. service and repair reed valves on two-cycle engines
   iv. rotary valve timing on two-cycle engine

2. Describe the procedures to check gasoline engine compression.
   i. remove spark plugs
   ii. test compression
   iii. compare readings to indicate engine condition
   iv. replace and torque spark plugs
   v. cylinder leak down test
   vi. bore scope inspection

Practical Requirements:

1. Set valve timing on a two-cycle and a four-cycle engine.

2. Perform a compression test on a gasoline engine.

3. Perform bore scope inspection.

SR1235 Power Sport Starting and Charging Systems

Learning Outcomes:

- Demonstrate the skills and knowledge required to maintain and repair light duty starting and charging systems.
- Demonstrate the ability to use service information effectively.
- Demonstrate the use of safety practices in potentially harmful situations.

Duration: 30 Hours

Pre-Requisite(s): MP1445

Objectives and Content:

1. Describe types and purposes of batteries.

2. Describe the operating principles of starting and charging systems.

3. Describe the procedures to service batteries.
   i. test
   ii. recharge
   iii. replace

4. Describe the procedures to disassemble, inspect and service starting system.
   i. rope-rewind starters
   ii. relays and switches
   iii. electrical starters
   iv. starter drives
   v. maintain starting system

5. Describe the procedures to service and replace starting motors.

6. Describe the procedures to disassemble, inspect and service charging system.
   i. AC generator
   ii. voltage regulators
   iii. rectifiers
   iv. maintain charging system

7. Describe the procedures to service and replace AC generators, voltage regulators and rectifiers.

Practical Requirements:

1. Recharge a battery.
2. Test a battery.
3. Remove, inspect, repair and/or replace rope rewind starters.
4. Remove, inspect, repair and/or replace starter drives.
5. Remove, inspect, repair and/or replace electrical starters.
6. Remove, inspect, repair and or replace AC generator.
7. Remove, inspect, repair and or replace voltage regulators and rectifiers.

SR1245 Ignition Systems

Learning Outcomes:

- Demonstrate the skills and knowledge required to maintain and repair ignition systems.
- Demonstrate the ability to use service information effectively.
- Demonstrate the use of safety practices in potentially harmful situations.
- Demonstrate an appreciation for environmental protection.

Duration: 30 Hours

Pre-Requisite(s): MP1445

Objectives and Content:

1. Describe types, purpose and operations of ignition systems.

2. Identify the components of a conventional/electronic ignition system.

3. Describe the purpose and operation of on-board computer.

4. Describe the operation of the distributor and timing mechanisms.

5. Describe the procedures to test and service ignition systems.
   i. electronic ignition
      - solid state
      - CDI
   ii. computers
   iii. inputs and outputs
   iv. sensors

6. Describe the procedures to check, adjust and set distributor timing.

7. Describe the procedures to clean, adjust and replace spark plugs.

8. Describe the procedures to check resistance of high voltage wires, terminals and plug caps.

Practical Requirements:

1. Scan test on-board computer systems.

2. Set static and dynamic timing.

3. Remove, clean, adjust and/or replace spark plugs.

4. Determine resistance of high voltage wires.

5. Test output of ignition system components.

6. Test sensors readings as per manufactures specifications.

SR1335 Gas Injection Systems

Learning Outcomes:

- Demonstrate the skills and knowledge required to maintain and repair gasoline injection systems.
- Demonstrate the ability to use service information effectively.
- Demonstrate the use of safety practices in potentially harmful situations.
- Demonstrate an appreciation for environmental protection.

Duration: 30 Hours

Pre-Requisite(s): MP1445

Objectives and Content:

1. Describe types of injection systems and their operation for gasoline and diesel fuels.
   i. direct fuel injection
   ii. semi-direct fuel injection
   iii. high pressure injection

2. Describe the operation of high-pressure pumps and pressure regulators.

3. Describe the purpose of sensors, actuators and computer control modules.

4. Describe the procedure to inspect, test and service fuel system components.
   i. injectors
   ii. injection pumps
   iii. filters
   iv. fuel lines
   v. fuel rails
   vi. pressure regulators
   vii. injector cleaning

Practical Requirements:

1. Test fuel injectors.
2. Test fuel pressure regulators.
3. Remove and replace fuel injectors.
4. Test sensor outputs.
5. Perform a pressure test on a high-pressure injection pump.

SR1345 Carburetted Fuel Systems

Learning Outcomes:

- Demonstrate the skills and knowledge required to maintain and repair carburetted fuel systems.
- Demonstrate the ability to use service information effectively.
- Demonstrate the use of safety practices in potentially harmful situations.

Duration: 30 Hours

Pre-Requisite(s): None

Objectives and Content:

1. Describe carburetted fuel systems and explain the operation.

2. Describe the types of carburetors and explain their operations.
   i. circuits

3. Describe the types of governors and explain their operation.

4. Describe the procedure to recondition and synchronize carburetors.
   i. replace carburetor kits
   ii. adjust settings
   iii. synchronize multi-carburetor systems
   iv. pressure tests

5. Describe the procedures to service governors.
   i. air-vane
   ii. centrifugal
   iii. electronic assist

Practical Requirements:

1. Recondition a carburetor.

2. Synchronize a multi-carburetor system.

3. Inspect and adjust a mechanical governor.

SR1425 Power Sport Cooling Systems

Learning Outcomes:

- Demonstrate the skills and knowledge required to maintain and repair light and medium duty cooling systems.
- Demonstrate the ability to use service information effectively.
- Demonstrate the use of safety practices in potentially harmful situations.
- Demonstrate an appreciation for environmental protection.

Duration: 30 Hours

Pre-Requisite(s): TS1195, SR1120

Objectives and Content:

1. Describe types of cooling systems and their operation.
   - i. air
   - ii. liquid
     - anti-freeze
     - oil

2. Describe the components of the cooling system and their operation.
   - i. belts
   - ii. pumps
   - iii. thermostats
   - iv. radiators
   - v. block heaters
   - vi. heat exchanger
   - vii. fans
     - mechanical
     - electric
   - viii. pulleys
   - ix. shrouds
   - x. recovery tank
   - xi. anodes

3. Describe damage caused by cooling system failure.

4. Describe types of coolant and explain the purposes.

5. Describe the effects of chemical corrosion on the cooling system.

6. Describe temperature control systems.

7. Describe the procedures to remove, service, and replace cooling system components.
   i. belts
   ii. pumps
   iii. thermostats
   iv. radiators
   v. block heaters
   vi. heat exchanger
   vii. fans
      - mechanical
      - electric
   viii. pulleys
   ix. adjustments
   x. anodes

8. Describe the procedures to test and replace coolant.
   i. cleaning and flushing
   ii. select engine coolants
   iii. test coolant condition
   iv. replace coolant as per manufactures specifications
   v. check system for leakage

9. Describe procedures to pressure test a cooling system.
   i. inspect cooling system
   ii. test cooling system temperature
   iii. check radiator cap pressure and vacuum release
   iv. check cooling system leaks using pressure
   v. refill and check system

10. Describe procedures to check thermostatic fan controls.
   i. check fan motor for power supply and ground
   ii. check thermo-switch
   iii. inspect and test wiring harness

Practical Requirements:

1. Drain and refill cooling system as per manufactures specifications.
2. Test coolant condition.
3. Test cooling system for leaks.
4. Replace a thermostat.
5. Inspect a water pump.
6. Check a cooling fan motor operation.

SR1431 Emission Control Systems

Learning Outcomes:

- Demonstrate the ability to service and repair vehicle emission control systems.
- Demonstrate an understanding of industry and provincial standards.

Duration: 30 Hours

Pre-Requisite(s): SR1245, SR1335, SR1345

Objectives and Content:

1. Identify the components and functions of an emission control system.
   - i. crankcase ventilation systems
     - positive
     - opened and closed
   - ii. air injection systems
     - secondary
   - iii. catalytic converters
     - monolithic
     - 2 way
     - 3 way
   - iv. evaporation controls
     - tank vent
   - v. spark timing controls
     - thermal valves
     - knock sensors
   - vi. oxygen sensors

2. Describe exhaust system characteristics.
   - i. back pressure
   - ii. sound waves

Practical requirements:

None.

Level 2

SR2100 Lawn and Garden Equipment Servicing Fundamentals

Learning Outcomes:

- Demonstrate the ability to identify components and service lawn and garden equipment.

Duration: 45 Hours

Pre-Requisite(s): Level 1

Objectives and content:

1. Describe the procedures to perform routine maintenance and tune-ups.
   i. maintain a service schedule
   ii. use tune-up check list
   iii. prepare equipment for off-season storage

2. Describe the procedures to service single component ignition module.

3. Describe the procedures to service engine auxiliary components.
   i. adjust belt deflection
   ii. align pulleys
   iii. remove and install generators, water pumps and auxiliary attachments
   iv. remove and install reduction drives

4. Identify and explain the purpose of mower deck components and attachments.

5. Describe the procedures to service mower decks and attachments.

6. Identify and explain the purpose of brake and steering components.

7. Describe the procedures to service brake and steering components.

8. Describe the procedures to service chain saws.
   i. causes of bar failure
   ii. causes of chain failure

Practical Requirements:

1. Perform a routine maintenance and tune-up using a checklist.

2. Remove and install auxiliary attachments.
   i. generators
   ii. water pumps
   iii. reduction drives

3. Adjust belts and pulleys on engine auxiliary components.

4. Remove and install mower decks.

5. Disassemble, inspect, service and reassemble a brake system.

6. Service a steering system.

SR2200 Snowmobile Servicing Fundamentals

Learning Outcomes:

- Demonstrate the skills and knowledge necessary to identify components and service snowmobiles.

Duration: 60 Hours

Pre-requisite: Level 1

Objectives and content:

1. Describe the operation of snowmobile systems and components.
   - i. fuel system
   - ii. oil injection system
   - iii. cooling system
     - liquid
     - air
   - iv. drive clutch
   - v. driven clutch
   - vi. slide rail suspension
   - vii. braking systems
   - viii. steering system
   - ix. suspension upgrades

2. Describe the procedures to inspect snowmobile components as per manufactures checklist.
   - i. carburetors
   - ii. fuel injection
   - iii. oil injection system
   - iv. braking system
   - v. cooling system
   - vi. steering system
   - vii. front suspension system
   - viii. frame components
   - ix. track suspension units
   - x. drive system

3. Describe the procedures to service snowmobile carburetors.

4. Describe the procedures to service snowmobile fuel injection systems.

5. Describe the procedures to adjust snowmobile oil injection systems.
   i. mechanical
   ii. electric

6. Describe the procedures to service snowmobile braking systems.
   i. hydraulic lines
   ii. cables
   iii. disc
   iv. rotor
   v. linings

7. Describe the procedures to service snowmobile cooling systems.
   i. heat exchangers
   ii. electric radiators
   iii. fan cooled

8. Describe the procedures to service snowmobile steering components.
   i. skis
   ii. ski spindle
   iii. steering column
   iv. handle bars
   v. linkage
   vi. power steering

9. Describe the procedures to service snowmobile independent front suspensions.

10. Describe the procedures to replace snowmobile frame components.
    i. bolt on
    ii. riveted
    iii. cemented

11. Describe the procedures to service snowmobile track suspension units.
    i. slide rail
    ii. track alignment
    iii. track tension

Practical Requirements:

1. Disassemble, service and reassemble a snowmobile carburetor.

2. Disassemble, service and reassemble a snowmobile fuel injection system.

3. Adjust a snowmobile oil injection system.

4. Disassemble, service and reassemble a snowmobile braking system.

5. Disassemble, service and reassemble a snowmobile steering system.

6. Disassemble, service and reassemble a track suspension unit.

SR2301 Motorcycle Servicing Fundamentals

Learning Outcomes:

- Demonstrate the ability to service motorcycles.

Duration: 30 Hours

Pre-requisite: Level 1

Objectives and content:

1. Describe starter parts and operation.

2. Describe types and functions of air filters.

3. Describe drum and hydraulic disk brake operation and design.

4. Describe the operation of motorcycle front forks.

5. Describe types of clutches.

6. Describe the procedures to tune-up engines.
   i. compression test
   ii. perform engine tune-up
   iii. prepare machine for off-season storage

7. Describe the procedures to inspect and service motorcycle air cleaners.

8. Describe the procedures to inspect and service wheels and tires.
   i. remove and replace tire
   ii. service wheel bearings
   iii. repair tires
   iv. service spoke wheels
   v. re-spoke wheels
   vi. balance wheel and tire
   vii. align motorcycle wheels

9. Describe the procedures to inspect and service brake systems.
   i. hydraulic system
   ii. disc
   iii. drum

10. Describe the procedures to inspect and service front forks.
    i. recondition the front forks
    ii. steering head parts
    iii. steering head bearings

11. Describe the procedures to inspect and service final drives.
    i. identify types of final drives
        - chain
        - belt
        - shaft
    ii. bearings
    iii. swing arms

12. Describe the procedures to identify, diagnose and service handling problems.

Practical Requirements:

1. Perform an engine tune-up.

2. Remove, replace and balance a tire.

3. Re-spoke and align a rim.

4. Disassemble, service and reassemble a brake system.
    i. disc
    ii. drum

5. Disassemble, service and reassemble steering head bearings and front forks.
    i. standard
    ii. inverted

6. Service and adjust chain & belt drives.

7. Disassemble, service and reassemble shaft & final drives.

SR2302 ATV Servicing Fundamentals

Learning Outcomes:

- Demonstrate the ability to service ATVs.

Duration: 30 Hours

Pre-requisite: Level 1

Objectives and content:

1. Describe starter parts and operation.

2. Describe types and functions of air filters.

3. Describe drum, hydraulic disk, and wet brake system operation and design.

4. Describe types of clutches.

5. Describe the procedures to repair recoil starters.

6. Describe the procedures to tune-up engines.
   i. compression test
   ii. perform engine tune-up
   iii. prepare machine for off-season storage

7. Describe the procedures to inspect and service air cleaners.

8. Describe the procedures to inspect and service wheels and tires.
   i. remove and replace tire
   ii. service wheel bearings
   iii. repair tires
   iv. balance wheel and tire
   v. align front end
   vi. check tire pressure

9. Describe the procedures to inspect and service brake systems.
   i. hydraulic system
   ii. disc
   iii. drum
   iv. wet brake

10. Describe the procedures to inspect and service front ends.
    i. bushings
    ii. bearings
    iii. tie rod ends
    iv. cv shafts
    v. electric power steering

11. Describe the procedures to inspect and service final drives.
    i. identify types of final drives
        - chain
        - belt
        - shaft
    ii. bearings and cv joints
    iii. swing arms

12. Describe the procedures to diagnose and service handling problems.
    i. types of handling problems

Practical Requirements:

1. Perform an engine tune-up.

2. Remove, replace and balance a tire.

3. Disassemble, service and reassemble a brake system.
    i. disc
    ii. drum

4. Service and adjust chain & belt drives.

5. Disassemble, service and reassemble a rear differential.

SR2401 Marine Equipment Servicing Fundamentals

Learning Outcomes:

- Demonstrate the ability to troubleshoot and repair marine equipment.

Duration: 75 Hours

Pre-Requisite(s): Level 1

Objectives and content:

1. Describe the procedures to diagnose and service ignition systems.
   i. CDI
   ii. solid state
   iii. ECM

2. Describe the procedures to diagnose and service starting and charging systems.

3. Describe the procedures to diagnose and service fuel systems.
   i. air intake system
   ii. carburetor
   iii. fuel injection
   iv. manifold
   v. fuel pump
   vi. oil injection
   vii. fuel tank
   viii. lines
   ix. anti-siphon valve

4. Describe the operation and purpose of tilt and trim systems.

5. Describe the procedures to diagnose and service tilt and trim systems.

6. Describe propeller operation and applications.

7. Describe the procedures to replace water pump impellers.

8. Describe the procedures to diagnose and repair upper stern drive gear housings.
   i. pressure test

9. Describe the procedures to diagnose and repair lower stern drive gear housings.
   i. pressure test

10. Describe the procedures to diagnose and service lower units.
    i. identify mechanical gear case components
    ii. service lower unit and mechanical gear case

11. Describe the procedures to diagnose and service jet drive units.

Practical Requirements:

1. Diagnose fuel and ignition system malfunctions.

2. Diagnose and service starting system malfunctions.

3. Diagnose and service charging system malfunctions.

4. Service a tilt and trim system.

5. Remove and service a jet drive unit.

6. Disassemble, inspect, service and reassemble upper gear housing.

7. Disassemble, inspect, service and reassemble lower gear housing.

Level 3

SR1500 Small Equipment Transmissions

Learning Outcomes:

- Demonstrate the skills and knowledge required to service Power Sport transmissions.

Duration: 120 Hours

Pre-Requisite(s): Level 2

Objectives and content:

1. Describe the design and function of Power Sport transmissions.

2. Describe the procedures to service and repair lawn and garden equipment transmissions and differentials.
   i. friction wheel drives
   ii. hydrostatic drives
   iii. troubleshoot transmission problems
   iv. perform maintenance on transmissions
   v. service differentials

3. Describe types and purpose of snowmobile chain and gear cases.

4. Describe the procedures to service and repair chainsaw systems.
   i. chains and bars
   ii. drive systems
   iii. chain oilers

5. Describe the procedures to service and repair snowmobile chain and gear cases.
   i. chains, sprockets, bearings, and gears
   ii. tensioners
   iii. drive axle
   iv. jackshaft

6. Describe the operation of motorcycle transmissions.
   i. primary drives
   ii. clutches
   iii. gear shifting mechanisms

7. Describe the procedures to service and repair motorcycle transmissions.
   i. troubleshoot transmission malfunctions

ii. disassemble and assemble transmissions

8. Describe motorcycle kick starting operations.

9. Describe the procedures to service and repair motorcycle and all-terrain vehicle clutches.
   i. primary drives and clutches
   ii. constant variable transmission (CVT)
   iii. one-way clutches
   iv. centrifugal clutch
   v. multi-plate clutch

Practical Requirements:

1. Diagnosis Power Sport transmission and differential problems.

2. Disassemble, inspect, service and reassemble friction wheel drives.

3. Disassemble, inspect, service and reassemble hydrostatic drives.

4. Disassemble, inspect, service and reassemble a constant variable transmission.

5. Disassemble, inspect, service and reassemble a snowmobile chain case.

6. Disassemble, inspect, service and reassemble a snowmobile gear case.

7. Disassemble, inspect, service and reassemble chainsaw chain and bar.

8. Disassemble, inspect, service and reassemble chainsaw drive system.

9. Disassemble, inspect, service and reassemble a motorcycle transmission.

10. Disassemble, inspect, service and reassemble all-terrain vehicle clutches.

SR2310 Motorcycle and ATV Troubleshooting and Repair

Learning Outcomes:

- Demonstrate the ability to troubleshoot and repair motorcycles and ATVs.

Duration: 120 Hours

Pre-Requisite(s): Level 2

Objectives and content:

1. Describe two-stroke and four-stroke lubrication systems.

2. Describe the procedures to service lubrication systems.
   i. check oil pressure
   ii. check valves
   iii. test for contaminants
   iv. change oil and filters

3. Describe a systematic approach to diagnosing engine malfunctions.

4. Describe the procedures to adjust valve clearances on a four-stroke engine.
   i. shim
   ii. rocker arm

5. Describe the procedures to disassemble, inspect, service and reassemble motorcycle and ATV cylinder heads.
   i. valves
   ii. valve guides
   iii. valve seats
   iv. springs
   v. camshafts
   vi. bearings and seals
   vii. timing chains, belts and gears
   viii. measuring clearances

6. Describe the procedures to service motorcycle engine exhaust and power valve systems.

7. Describe the procedures to disassemble, inspect, service and reassemble motorcycle and ATV cylinder blocks.
   i. pistons and rings
   ii. crankshafts
   iii. bearings and seals

iv. connecting rods
v. timing chains
vi. belts
vii. gears
viii. measure clearances
ix. deglaze cylinder bore

8. Identify and explain the operation, diagnosis and service of motorcycle and ATV ignition systems.
   i. electronic
   ii. CDI
   iii. Magneto
   iv. Battery ignition
   v. ECU

9. Identify and explain the operation, diagnosis and service of motorcycle and ATV starting and charging systems.
   i. testing
   ii. one-way clutch

10. Identify and explain the operation, diagnosis and service of motorcycle and ATV carburetors.
   i. flat slide
   ii. cv
   iii. fixed venturi

11. Describe the procedures to diagnose and service motorcycle and ATV cooling systems.

12. Describe the procedures to diagnose and service motorcycle and ATV electrical malfunctions.
   i. troubleshoot switches
   ii. troubleshoot lighting and starter circuits

Practical Requirements:

1. Diagnose engine system malfunctions.

2. Disassemble, inspect, service and reassemble a motorcycle or ATV cylinder head, including a valve adjustment.

3. Disassemble, inspect, service and reassemble a motorcycle or ATV cylinder block.

4. Diagnose and service a starting system.

5. Diagnose and service a charging system.

6. Diagnose and service an ignition system.

7. Diagnose and service a carburetor.

8. Diagnose and service a cooling system.

Level 4

SR2111 Lawn and Garden Equipment Troubleshooting and Repair

Learning Outcomes:

- Demonstrate the ability to troubleshoot and repair lawn and garden equipment.

Duration: 70 Hours

Pre-Requisite(s): Level 3

Objectives and content:

1. Identify and describe the causes for piston failure.

2. Identify and describe types of bearing failure and the causes.

3. Identify and describe the importance of maintaining the correct quantity and quality of lubrication.

4. Identify and describe hydraulic operation and service procedures for lawn and garden equipment.
   i. hydraulic theory
   ii. hydraulic systems

5. Describe the procedures to service valve trains on lawn and garden equipment.
   i. valve service procedures
   ii. four cycle engines

6. Describe the procedures to diagnose and service engine components on lawn and garden equipment.
   i. pistons, rods, bearings and rings
   ii. cylinders
   iii. camshaft
   iv. crankshaft

7. Describe the procedures to diagnose and service clutches and drives on lawn and garden equipment.

8. Describe the procedures to diagnose and service cooling systems on lawn and garden equipment.

9. Describe the procedures to overhaul engine driven water pumps.
   i. identify and replace water pump parts

10. Describe the procedures to overhaul chainsaw engines.
    i. identify the components of chainsaw engines
    ii. perform routine maintenance on chainsaw engines
    iii. disassemble and reassemble chainsaw engines
    iv. troubleshoot problems with chainsaw engines

11. Identify types of portable generating units.

12. Describe the procedures to diagnosis and service portable generating equipment.
    i. resistance test
    ii. voltage test
    iii. brush measurement
    iv. rpm check
    v. hertz check

Practical Requirements:

1. Perform a lubrication service on lawn and garden equipment.

2. Drain and refill a lawn and garden hydraulic system.

3. Disassemble, analyze, and rebuild a lawn and garden engine.

4. Perform maintenance on a lawn and garden clutch system.

5. Overhaul a chainsaw engine.

6. Perform an output test on a portable generator.

SR2210 Snowmobile Troubleshooting and Repair

Learning Outcomes:

- Demonstrate the ability to troubleshoot and repair snowmobile engines.

Duration: 80 Hours

Pre-Requisite(s): Level 3

Objectives and content:

1. Describe the parts and operation of a snowmobile fuel injection system.

2. Explain the advantages and disadvantages of fuel injection.

3. Describe the procedures involved in troubleshooting the fuel system.

4. Describe the procedures to tune and recondition clutches.
   i. maximum rpm
   ii. shift rpm
   iii. engagement rpm
   iv. backshift
   v. clutch weights
   vi. spring preload
   vii. spring rate
   viii. spring total force
   ix. belt deflection
   x. belt alignment

5. Describe crankshaft component operation.
   i. water pump
   ii. rotary valve drive
   iii. oil pump
   iv. counterbalance shafts

6. Describe the procedure to diagnose engine malfunctions.

7. Describe the procedures to diagnose and repair electronic ignition systems.
   i. adjust ignition timing.

8. Describe the procedures to diagnose and repair lighting, starting and charging systems.
   i. adjust throttle safety systems

9. Describe the procedures to diagnose and repair fuel system malfunctions.
   i. spark plug readings
   ii. carbon patch readings

10. Describe the procedures to service gas charged shocks.
   i. safety precautions

11. Describe the procedures to recondition drive and driven clutches.
   i. set alignments
   ii. diagnose belt failure

12. Describe the procedures to disassemble, inspect, repair and assemble a snowmobile engine.
   i. cylinder head
   ii. valve train
   iii. cylinder block
   iv. honing
   v. pistons and rings
   vi. bearings, seals and gaskets
   vii. crankshafts
   viii. installation and alignment

13. Describe the procedures to service engine power-valve systems.
   i. pressure
   ii. electric

14. Describe the procedures to inspect and replace snowmobile exhaust systems.

Practical Requirements:

1. Diagnose engine system malfunctions.

2. Adjust electronic ignition timing.

3. Diagnose and service starting system malfunctions.

4. Diagnose and service charging system malfunctions.

5. Diagnose fuel management problems.

6. Recondition a drive and a driven clutch.

7. Disassemble, inspect, service and assemble a snowmobile engine.

SR2411 Marine Equipment Troubleshooting and Repair

Learning Outcomes:

- Demonstrate the ability to service marine equipment.

Duration: 90 Hours

Pre-Requisite(s): Level 3

Objectives and content:

1. Describe the procedures to repair recoil starters.
   i. replace rope
   ii. rebuild recoil assembly

2. Describe the procedure to service superchargers and intercoolers.

3. Describe the procedures to diagnose and service inboard and outboard engines.
   i. handle and clean an outboard motor
   ii. salvage a submerged outboard
   iii. service an outboard powerhead
      - identify components
      - cylinders
      - pistons, rods and rings
   iv. service an inboard engine
      - pistons, rods, bearings and rings
      - cylinders
      - camshaft
      - crankshaft

4. Describe the procedures to diagnose and service marine equipment remote controls.
   i. steering controls
   ii. remote shift controls
   iii. fly by wire systems

5. Describe the procedures to diagnose and service marine equipment cooling systems.
   i. water pumps
   ii. thermostats
   iii. personal watercraft cooling systems
   iv. cooling systems on stern drive engines
      - open and closed systems
      - stern drive water pumps

- engine water pumps
- exhaust manifolds and circulation systems

v. flush freshwater cooling systems
vi. pressure test manifolds
vii. clean and service exhaust elbows

6. Describe the procedures to perform routine maintenance on stern drive engines.
   i. change oil and filter
   ii. prepare engine for off-season storage

7. Describe the procedures to diagnose and service stern drive engine electrical systems.
   i. starting system
   ii. ignition system
   iii. charging system

8. Describe the procedures to tune-up engine.
   i. troubleshoot engine problems
   ii. time ignition
   iii. synchronize carburetor
   iv. prepare engine for off-season storage

9. Describe the procedures to align engines.
   i. personal watercraft
   ii. dual outboards
   iii. inboards

10. Describe the requirements and procedures to rig outboard and stern drive boat and motor unit.

11. Describe the procedures to service bilge pumps and bilge blowers.

12. Describe the procedures to service boat trailers.
   i. set up trailer
   ii. wire trailer and tow vehicle
   iii. service trailer undercarriage

13. Describe the components of a jet drive system.

14. Describe corrosion protection systems.

Practical Requirements:

1. Overhaul an outboard powerhead.
2. Perform a complete service on an inboard engine.
3. Service a marine equipment open cooling system.
4. Service a marine equipment closed cooling system.
5. Service a supercharger and intercooler.
6. Perform a starting system check on an outboard or stern drive unit.
7. Perform a charging system output test on an outboard or stern drive unit.
8. Align a duel outboard or stern drive engine.
9. Perform a tune-up.

B. Conditions Governing Apprenticeship Training

1.0 General

The following general conditions apply to all apprenticeship training programs approved by the Provincial Apprenticeship and Certification Board (PACB) in accordance with the **Apprenticeship Training and Certification Act (1999).** If an occupation requires additional conditions, these will be noted in the specific Plan of Training for the occupation. In no case should there be a conflict between these conditions and the additional requirements specified in a certain Plan of Training. All references to Memorandum of Understanding will also apply to Letter of Understanding (LOU) agreements.

2.0 Entrance Requirements

2.1 Entry into the occupation as an apprentice requires:

Indenturing into the occupation by an employer who agrees to provide the appropriate training and work experiences as outlined in the Plan of Training.

2.2 Notwithstanding the above, each candidate must have successfully completed a high school program or equivalent, and in addition may be required to have completed certain academic subjects as specified in a particular Plan of Training. Mature students, at the discretion of the Director of Apprenticeship and Trades Certification, may be registered. A mature student is defined as one who has reached the age of 19 and who can demonstrate the ability and the interest to complete the requirements for certification.

2.3 At the discretion of the Director of Apprenticeship and Trades Certification, credit toward the apprenticeship program may be awarded to an apprentice for previous work experience and/or training as validated through prior learning assessment.

2.4 An Application for Apprenticeship form must be duly completed along with a Memorandum of Understanding as applicable to be indentured into an Apprenticeship. The Memorandum of Understanding must contain signatures of an authorized employer representative, the apprentice and an official representing the Provincial Apprenticeship and Certification Board to be valid.

2.5 A new Memorandum of Understanding must be completed for each change in an employer during the apprenticeship term.

3.0 Probationary Period

The probationary period for each Memorandum of Understanding will be six months or 900 employment credit hours. Within that period the memorandum may be terminated by either party upon giving the other party and the PACB one week notice in writing.

4.0 Termination of a Memorandum of Understanding

After the probationary period referred to in Section 3.0, the Memorandum of Understanding may be terminated by the PACB by mutual consent of the parties involved, or cancelled by the PACB for proper and sufficient cause in the opinion of the PACB, such as that stated in Section 14.

5.0 Apprenticeship Progression Schedule and Wage Rates

Progression Schedule

Power Sport Technician - 5400 Hours			
Apprenticeship Level and Wages			
Level	Wage Rate	Requirements for Progression to Next Level	Next Level
1	60%	▪ Completion of Pre-Employment training ▪ Registration as an apprentice ▪ Minimum 1800 hours of combined relevant work experience and training	2nd Year
2	70%	▪ Completion of Level 2 training ▪ Pass Level 2 exam* ▪ Minimum 3600 hours of combined relevant work experience and training	3rd Year
3	90%	▪ Completion of Level 3 & 4 training ▪ Pass Level 3 and Level 4 exams* ▪ Minimum 5200 hours of combined relevant work experience and training ▪ Sign-off of all workplace skills in apprentice logbook ▪ Pass certification exam	Journeyperson Certification

Wage Rates

- Rates are percentages of the prevailing journeyperson's wage rate in the place of employment of the apprentice.
- Rates must not be less than the wage rate established by the Labour standards Act (1990), as now in force or as hereafter amended, or by other order, as amended from time to time replacing the first mentioned order.
- Rates must not be less than the wage rate established by any collective agreement which may be in force at the apprentice's workplace.
- Employers are free to pay wage rates above the minimums specified.

Level Exams*

- This program may not currently contain level exams, in which case this requirement will be waived until such time as level exams are available.

Power Sport Technician - 5400 Hours		
Class Calls (After Apprenticeship Registration)		
Call Level	Requirements for Class Call	Hours awarded for In-School Training
Direct Entry Level 1	▪ Minimum of 1800 hours of relevant work experience ▪ Prior Learning Assessment (PLA) at designated college (if applicable)	360
Level 2	▪ Minimum of 2300 hours of relevant work experience and training	240
Level 3	▪ Minimum of 3800 hours of relevant work experience and training	240
Level 4	▪ Minimum of 5200 hours of relevant work experience and training	240

Class Calls at Minimum Hours

- Class calls may not always occur at the minimum hours indicated. Some variation is permitted to allow for the availability of training resources and apprentices.

6.0 Tools

Apprentices shall be required to obtain their own hand tools applicable for the designated occupation of registration or tools as specified by the PACB.

7.0 Periodic Examinations and Evaluation

7.1 Every apprentice shall submit to such occupational tests and examinations as the PACB shall direct. If after such occupational tests and examinations the apprentice is found to be making unsatisfactory progress, his/her apprenticeship level and rate of wage shall not be advanced as provided in Section 5 until his/her progress is satisfactory to the Director of Apprenticeship and Trades Certification and his/her date of completion shall be deferred accordingly. Persistent failure to pass required tests shall be a cause for revocation of his/her Memorandum of Understanding.

7.2 Upon receipt of reports of accelerated progress of the apprentice, the PACB may shorten the term of apprenticeship and advance the date of completion accordingly.

7.3 For each and every course, a formal assessment is required for which 70% is the pass mark. A mark of 70% must be attained in both the theory examination and the practical project assignment, where applicable as documented on an official transcript.

7.4 Course credits may be granted through the use of a PACB approved matrix which identifies course equivalencies between designated trades and between current and historical Plans of Training for the same trade.

8.0 Granting of Certificates of Apprenticeship

Upon the successful completion of apprenticeship, the PACB shall issue a Certificate of Apprenticeship.

9.0 Hours of Work

Any hours employed in the performance of duties related to the designated occupation will be credited towards the completion of the term of apprenticeship. Appropriate documentation of these hours must be provided.

10.0 Copies of the Registration for Apprenticeship

The Director of Apprenticeship and Trades Certification shall provide copies of the Registration for Apprenticeship form to all signatories to the document.

11.0 Ratio of Apprentices to Journeypersons

Under normal practice, the ratio of apprentices to journeypersons shall not exceed two apprentices to every one journeyperson employed. Other ratio arrangements would be determined and approved by the PACB.

12.0 Relationship to a Collective Bargaining Agreement

Where applicable in Section 5 of these conditions, Collective Agreements take precedence.

13.0 Amendments to a Plan of Apprenticeship Training

A Plan of Training may be amended at any time by the PACB.

14.0 Employment, Re-Employment and Training Requirements

14.1 The Plan of Training requires apprentices to regularly attend their place of employment.

14.2 The Plan of Training requires apprentices to attend training for that occupation as prescribed by the PACB.

14.3 Failure to comply with Sections 14.1 and/or 14.2 will result in cancellation of the Memorandum of Understanding. Apprentices may have their MOUs reinstated by the PACB but would be subject to a commitment to complete the entire program as outlined in the General Conditions of Apprenticeship. Permanent cancellation in the said occupation is the result of non-compliance.

14.4 Cancellation of the Memorandum of Understanding to challenge journeyperson examinations, if unsuccessful, would require an apprentice to serve a time penalty of two (2) years before reinstatement as an apprentice or qualifying to receive a class call to training as a registered Trade Qualifier. Cancellation must be mutually agreed upon by the employer and the apprentice.

14.5 An employer shall ensure that each apprentice is under the direct supervision of an approved journeyperson supervisor who is located at the same worksite as the apprentice, and that the apprentice is able to communicate with the journeyperson with respect to the task, activity or function that is being supervised.

14.6 Under the Plan of Training the employer is required to keep each apprentice employed as long as work is available, and if the apprentice is laid off due to lack of work, to give first opportunity to be hired before another is hired.

14.7 The employer will permit each apprentice to attend training programs as prescribed by the PACB.

14.8 Apprentices who cannot acquire all the workplace skills at their place of employment will have to be evaluated in a simulated work environment at a PACB authorized training institution and have sign-off done by instructors to meet the requirements for certification.

15.0 Appeals to Decisions Based on Conditions Governing Apprenticeship Training

Persons wishing to appeal any decisions based on the above conditions must do so in writing to the Minister of Department of Education and Early Childhood Development within 30 days of the decision.

C. Requirements for Provincial Certificate of Qualification

1. Evidence that the required work experiences outlined in this Plan of Training have been obtained. This evidence must be in a format clearly outlining the experiences and must be signed by an appropriate person or persons attesting that these experiences have been obtained to the level required.

2. Successful completion of all required courses in the program.

3. A combination of training from an approved training program and suitable work experience totaling 5400 hours.

   Or

   A total of 8100 hours of suitable work experience.

4. Completion of a Provincial examination, to be set at a place and time determined by the Apprenticeship and Trades Certification Division.

D. Roles and Responsibilities of Stakeholders in the Apprenticeship Process

The apprenticeship process involves a number of stakeholders playing significant roles in the training of apprentices. This section outlines these roles and the responsibilities resulting from them.

The Apprentice:

- completes all required technical training courses as approved by the PACB.
- finds appropriate employment.
- completes all required work experiences in combination with the required hours.
- ensures work experiences are well documented.
- approaches apprenticeship training with an attitude and commitment that fosters the qualities necessary for a successful career as a qualified journeyperson.
- obtains the required hand tools as specified by the PACB for each period of training of the apprenticeship program.

The Employer:

- provides high quality work experiences in an environment conducive to learning.
- remunerates apprentices as set out in the Plan of Training or Collective Agreements.
- provides feedback to training institutions, Apprenticeship and Trades Certification Division and apprentices in an effort to establish a process of continuous quality improvement.
- where appropriate, releases apprentices for the purpose of returning to a training institution to complete the necessary technical courses.
- ensures work experiences of the apprentice are documented.
- ensures a certified journeyperson is currently on staff in the same trade area as the apprentice and whose certification is recognized by the NL Department of Education and Early Childhood Development.

The Training Institution:

- provides a high quality learning environment.
- provides the necessary student support services that will enhance an apprentice's ability to be successful.
- participates with other stakeholders in the continual updating of programs.

The Apprenticeship and Trades Certification Division:

- establishes and maintains program advisory committees under the direction of the PACB.
- promotes apprenticeship training as a viable career option to prospective apprentices and other appropriate persons involved, such as career guidance counsellors, teachers, parents, etc.
- establishes and maintains a protocol with training institutions, employers and other appropriate stakeholders to ensure the quality of apprenticeship training programs.
- ensures all apprentices are appropriately registered and records are maintained as required.
- schedules all necessary technical training periods for apprentices to complete requirements for certification.
- administers level, provincial and Red Seal examinations.

The Provincial Apprenticeship and Certification Board:

- sets policies to ensure the provisions of the *Apprenticeship and Certification Act (1999)* are implemented.
- ensures advisory and examination committees are established and maintained.
- accredits institutions to deliver apprenticeship training programs.
- designates occupations for apprenticeship training and/or certification.

Department of Education and Early Childhood Development
Apprenticeship and Trades Certification Division

Newfoundland & Labrador