

7

BUILDINGS AND PUBLIC WORKS

RV MAINTENANCE AND REPAIR

PROGRAM OF STUDY
5714

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The *RV Maintenance and Repair* program leads to the Diploma of Vocational Studies (DVS) and prepares the student to work as an

**RV MAINTENANCE
AND REPAIR SPECIALIST**

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INTRODUCTION

The *RV Maintenance and Repair* program was designed on the basis of a new framework for developing vocational education programs that calls for the participation of experts from the workplace and the field of education.

The program of study is developed in terms of competencies, expressed as objectives. These objectives are divided into modules, which are organized into teaching blocks. Various factors were kept in mind in developing the program: training needs, the job situation, purposes, goals, and strategies and means used to attain objectives.

The program of study lists the competencies that are the minimum requirements for a Diploma of Vocational Studies (DVS) for students in both the youth and adult sectors. It also provides the basis for organizing courses, planning teaching strategies, and designing instructional and evaluation materials.

The duration of the program is 975 hours, which includes 645 hours spent on the specific competencies required to practise the trade and 330 hours on general competencies. The program of study is divided into 21 modules, which vary in length from 15 to 90 hours (multiples of 15). The time allocated to the program is to be used not only for teaching but also for evaluation and remedial work.

This document contains two parts. Part I is of general interest and provides an overview of the training plan. It includes a synoptic table of basic information about the modules, a description of the program training goals, the competencies to be developed and the general objectives, and an explanation of operational objectives. Part II is designed primarily for those directly involved in implementing the program. It contains a description of the operational objectives of each module.

GLOSSARY

Program Training Goals

Statements that describe the educational aims of a program. These goals are the general goals of vocational education adapted to a specific trade or occupation.

Competency

A set of socio-affective behaviours, cognitive skills or psycho-sensori-motor skills that enable a person to correctly perform a role, function, activity or task.

General Objectives

Instructional objectives that provide an orientation for leading the students to attain one or more related objectives.

Operational Objectives

Statements of the educational aims of a program in practical terms. They serve as the basis for teaching, learning and evaluation.

Module of a Program

A component part of a program of study comprising a first-level operational objective and the related second-level operational objectives.

Credit

A unit used for expressing quantitatively the value of the modules in a program of study. One credit corresponds to 15 hours of training. Students must accumulate a set number of credits to graduate from a program.

PART I

1. SYNOPTIC TABLE

Number of modules: 21
Duration in hours: 975
Credits: 65

RV Maintenance and Repair
CODE: 5714

CODE	TITLE OF THE MODULE	HOURS	CREDITS*
759 511	1. The Trade and the Training Process	15	1
759 522	2. Occupational Health and Safety	30	2
759 533	3. General Shop Work	45	3
759 542	4. Plans, Technical Manuals and Sketches	30	2
759 554	5. Carpentry	60	4
759 565	6. Plumbing	75	5
759 572	7. Maintaining an RV	30	2
759 582	8. Welding and Cutting	30	2
759 592	9. Health and Safety: Propane Gas	30	2
759 604	10. Propane Gas	60	4
759 613	11. Installing Gas Appliances	45	3
759 623	12. Electricity	45	3
759 636	13. Electrical Appliances	90	6
759 644	14. Maintaining and Repairing a Gas System and Gas Appliances	60	4
759 653	15. Installing and Repairing Accessories	45	3
759 662	16. Communication	30	2
759 673	17. Preparation for Delivery	45	3
759 682	18. Inspecting an RV	30	2
759 696	19. Repairing and Modifying an RV	90	6
759 702	20. Job Search Techniques	30	2
759 714	21. Entering the Work Force	60	4

* 15 hours = 1 credit

This program leads to a DVS in RV Maintenance and Repair.

2. PROGRAM TRAINING GOALS

The training goals of the *RV Maintenance and Repair* program are based on the general goals of vocational education and take into account the specific nature of the trade. These goals are:

To develop effectiveness in the practice of a trade.

- To prepare students to perform RV maintenance and repair tasks and activities correctly and at an acceptable level of competence for entering the job market.
- To prepare students to perform satisfactorily on the job by fostering:
 - the development of the intellectual and technical skills required to make decisions and solve problems when carrying out tasks;
 - the development of ergonomic and safe work habits and a constant concern for occupational health and safety;
 - the development of efficient work methods;
 - awareness of professional ethics and a sense of responsibility;
 - observation and precision in carrying out tasks;
 - the desire to do a job well;
 - orderliness.

To ensure that students are prepared to enter the work force.

- To help students become familiar with the job market in general and RV maintenance and repair in particular.

- To help students become familiar with their rights and responsibilities as workers.
- To help students develop concern for customers' rights and expectations.

To foster personal development and the acquisition of occupational knowledge.

- To foster independence, a sense of responsibility and a desire to succeed.
- To help students develop a concern for excellence.
- To help students develop the habit of evaluating their work.
- To help students understand the underlying principles of the procedures used in RV maintenance and repair.
- To help students increase their capacity for learning and obtaining information and documentation.

To ensure job mobility.

- To help students acquire solid basic training.
- To help students adapt to different ways of working.
- To help students develop a positive attitude to technological change and new situations.
- To prepare students for a creative job search.

3. COMPETENCIES

The competencies to be developed in the *RV Maintenance and Repair* program are shown in the grid of learning focuses on the following page. The grid lists general and specific competencies as well as the major steps in the work process.

General competencies involve activities common to several tasks or situations. They cover, for example, the technological or scientific principles that the students must understand to practise the trade or occupation. Specific competencies focus on tasks and activities that are of direct use in the trade or occupation. The work process includes the most important steps in carrying out the tasks and activities of the trade or occupation.

The grid of learning focuses shows the relationship between the general competencies on the horizontal axis and the specific competencies on the vertical axis. The symbol (Δ) indicates a correlation between a specific competency and a step in the work process. The symbol (\circ) indicates a correlation between a general and a specific competency.

The symbols (\blacktriangle) and (\bullet) indicate that these relationships have been taken into account in the formulation of objectives intended to develop specific competencies related to the trade or occupation.

The logic used in constructing the grid influences the course sequence. Generally speaking, this sequence follows a logical progression in terms of the complexity of the learning involved and the development of the students' autonomy. The vertical axis of the grid shows the competencies directly related to the practice of a specific trade or occupation. These competencies are arranged in a relatively fixed order; therefore, the modules should be taught, insofar as possible, in the order represented on the grid. The modules including the general competencies on the horizontal axis should be taught in relation to those on the vertical axis. This means that some modules are prerequisite to others, while other modules are taught concurrently.

GRID OF LEARNING FOCUSES		FIRST-LEVEL OPERATIONAL OBJECTIVES	DURATION (IN HOURS)	WORK PROCESS (major steps)						GENERAL COMPETENCIES (related to technology, subjects, personal development, etc.)										TOTALS	
				Read the work order	Give a technical opinion	Take safety precautions	Carry out the task	Do the required checks	Record the information in the file	Observe occupational health and safety rules	Carry out operations associated with general shop work	Use plans, technical manuals and sketches	Apply welding and cutting techniques	Observe health and safety rules for working with propane gas	Operate a propane gas supply system smoothly	Apply basic electrical techniques	Communicate in the workplace	Use job search techniques	NUMBER OF OBJECTIVES	DURATION (IN HOURS)	
SPECIFIC COMPETENCIES (directly related to the practice of the specific occupation)																					
MODULES	MODULES									2	3	4	8	9	10	12	16	20			
	FIRST-LEVEL OCCUPATIONAL OBJECTIVES									B	B	B	B	B	B	B	B	B	9		
	DURATION									30	45	30	30	30	60	45	30	30		330	
1	Determine their suitability for the trade and the training process	S	15	△	△	▲	▲	▲	▲												
5	Do carpentry work	B	60	▲	△	▲	▲	▲	▲	●	●	●									
6	Do plumbing work	B	75	▲	△	▲	▲	▲	▲	●	●	●	○								
7	Maintain and RV	B	30	▲	△	▲	▲	▲	▲	●	●	●									
11	Install a propane gas appliance	B	45	▲	△	▲	▲	▲	▲	●	●	●	●	●	●						
13	Install and repair electrical appliances	B	90	▲	△	▲	▲	▲	▲	●	●	●	●	○	○	●					
14	Maintain and repair a gas supply system and propane gas appliances	B	60	▲	△	▲	▲	▲	▲	●	●	●	●	●	●	●					
15	Install and repair accessories	B	45	▲	△	▲	▲	▲	▲	●	●	●	○			○					
17	Prepare and RV for delivery	B	45	▲	△	▲	▲	▲	▲	●	●	●	●			●	○				
18	Inspect an RV	B	30	▲	△	▲	▲	▲	▲	●	○			●	●	●	○				
19	Repair and modify and RV	B	90	▲	△	▲	▲	▲	▲	●	●	●	●	●	●	●	○				
21	Enter the work force	S	60	△	△	▲	▲	▲	▲	●	○	○	○	●	○	○	●	●			
NUMBER OF OBJECTIVES		12																	21		
DURATION (IN HOURS)			645																	975	

S: Situational objectives

B: Behavioural objective

△ Correlation between a step and a specific competency

▲ Correlation to be taught and evaluated

○ Correlation between a general and a specific competency

● Correlation to be taught and evaluated

4. GENERAL OBJECTIVES

The general objectives of the *RV Maintenance and Repair* program are presented below, along with the major statement of each corresponding first-level operational objective.

To develop in the students the competencies required to carry out the tasks of the trade.

- Observe occupational health and safety rules.
- Carry out operations associated with general shop work.
- Use plans, technical manuals and sketches.
- Apply welding and cutting techniques.
- Observe health and safety rules for working with propane gas.
- Operate a propane gas supply system smoothly.
- Apply basic electrical techniques.

To develop in the students the competencies required to carry out the tasks related to the installation, maintenance and repair of an RV circuit, system, appliance, or accessory.

- Do carpentry work.
- Do plumbing work.
- Install a propane gas appliance.
- Install and repair electrical appliances.
- Maintain and repair a gas supply system and propane gas appliances.
- Install and repair accessories.

To develop in the students the competencies required to prepare, maintain and repair an RV.

- Maintain an RV.
- Prepare an RV for delivery.
- Inspect an RV.
- Repair and modify an RV.

To develop in the students the competencies required to make a smooth transition into the work force.

- Determine their suitability for the trade and the training process.
- Communicate in the workplace.
- Use job search techniques.
- Enter the work force.

5. FIRST- AND SECOND-LEVEL OPERATIONAL OBJECTIVES

5.1 DEFINITION

A first-level objective is defined for each competency to be developed. Competencies are organized into an integrated training program designed to prepare students to practise the trade or occupation. This systematic organization of competencies produces better overall results than training by isolated objectives. More specifically, it fosters a smooth progression from one objective to the next, saves teaching time by eliminating needless repetition, and integrates and reinforces learning material.

First-level operational objectives are the main, compulsory teaching/learning targets and they are specifically evaluated for certification. There are two kinds of operational objectives: behavioural and situational.

- **A behavioural objective** is a relatively closed objective that describes the actions and results expected of the student by the end of a learning step. Evaluation is based on expected results.
- **A situational objective** is a relatively open-ended objective that outlines the major phases of a learning situation. It allows for output and results to vary from one student to another. Evaluation is based on the student's participation in the activities of the learning context.

First-level operational objectives cover the learning that the students need to develop a competency:

- The specifications or the phases of the objective determine or guide specific learning, thereby allowing the competency to be developed step by step.
- The objective as a whole determines or guides the overall learning and the integration and synthesis of this learning, allowing the competency to be developed fully.

To attain the objectives, the following learning activities may be prepared:

- specific learning activities for second-level objectives
- specific learning activities for the specifications or phases of first-level objectives
- general learning activities for first-level objectives

5.2 HOW TO READ FIRST-LEVEL OPERATIONAL OBJECTIVES

A. How to Read a Behavioural Objective

Behavioural objectives consist of six components. The first three provide an overview of the objective:

1. The **expected behaviour** states a competency in terms of the general behaviour that the students are expected to have acquired by the end of the module.
2. The **conditions for performance evaluation** define what is necessary or permissible to the students during evaluation designed to verify whether or not the students have attained the objective. This means that the conditions for evaluation are the same wherever and whenever the program is taught.
3. The **general performance criteria** define the requirements by which to judge whether or not the results obtained are generally satisfactory.

The last three components ensure that the objective is understood clearly and unequivocally:

4. The **specifications of the expected behaviour** describe the essential elements of the competency in terms of specific behaviours.
5. The **specific performance criteria** define the requirements for each of the specifications of behaviour. They ensure a more enlightened decision on the attainment of the objective.
6. The **field of application** defines the limits of the objective, where necessary. It indicates cases where the objective applies to more than one task, occupation or field.

B. How to Read a Situational Objective

Situational objectives consist of six components:

1. The **expected outcome** states a competency as an aim to be pursued throughout the course.
2. The **specifications** outline the essential aspects of the competency and ensure a better understanding of the expected outcome.
3. The **learning context** provides an outline of the learning situation designed to help the students develop the required competencies. It is normally divided into three phases of learning:
 - information
 - performance, practice or involvement
 - synthesis, integration and self-evaluation.
4. The **instructional guidelines** provide suggested ways and means of teaching the course to ensure that learning takes place and that the same conditions apply wherever and whenever the course is taught. These guidelines may include general principles or specific procedures.
5. The **participation criteria** describe the requirements the students must fulfil, which are usually related to each phase of the learning context. They focus on how the students take part in the activities rather than on the results obtained. Participation criteria are normally provided for each phase of the learning context.
6. **The field of application** defines the limits of the objective, where necessary. It indicates cases where the objective applies to specific tasks, fields or objects.

PART II

MODULE 1: THE TRADE AND THE TRAINING PROCESS

CODE: 759 511

Duration: 15 hours

FIRST-LEVEL OPERATIONAL OBJECTIVE SITUATIONAL OBJECTIVE

EXPECTED OUTCOME

By participating in the required activities of the learning context according to the indicated criteria, the students will be able to
determine their suitability for the trade and the training process.

SPECIFICATIONS

At the end of this module, the students will:

- Be familiar with the nature of the trade and the various types of businesses in this sector.
- Understand the training process.
- Confirm their career choice.

LEARNING CONTEXT

PHASE 1: Information on the Trade

- Learning about the nature of the job market for maintaining and repairing RVs: potential workplaces (types of companies, products and services), employment prospects and salary, possibilities for advancement, selection of candidates.
- Learning about the nature and requirements of the job during visits, interviews or by reading: tasks, working conditions, work environment, performance review criteria, and workers' rights and responsibilities.
- Presenting to a group the information gathered and discussing their perception of the trade: advantages, disadvantages, requirements.

FIRST-LEVEL OPERATIONAL OBJECTIVE SITUATIONAL OBJECTIVE

LEARNING CONTEXT

PHASE 2: Information on and Participation in the Training Process

- Discussing the skills, aptitudes and knowledge required in the trade.
- Learning about the training process: program, instructional approach, evaluation methods, certification.
- Visiting the school shop and discussing the following elements: shop tools and equipment, vehicles, raw materials, products and materials, health and safety measures, learning modules, etc.
- Discussing connections between the main components of the program of study and various aspects of the trade.

PHASE 3: Evaluation and Confirmation of Career Choice

- Identifying their preferences, aptitudes and interests in relation to the trade and the training process.
- Evaluating their career choice by comparing aspects and requirements of the trade with their preferences, aptitudes and interests.

INSTRUCTIONAL GUIDELINES

The teacher should:

- Create a climate that favours the students' personal growth.
- Encourage the students to engage in discussions and express their opinions.
- Motivate the students to take part in the learning activities.
- Help the students to arrive at an accurate perception of the trade.
- Ensure that the students have access to relevant documentation: information on the trade, program of study, guides, job situation analysis report, etc.
- Facilitate access to the school shop.
- Organize visits to shops representing the main types of businesses.
- Organize a meeting with experts.

FIRST-LEVEL OPERATIONAL OBJECTIVE SITUATIONAL OBJECTIVE

PARTICIPATION CRITERIA

PHASE 1:

- Gather information on most of the topics to be covered.
- Adequately express their views on the trade during group meetings by making connections with the information gathered.

PHASE 2:

- Give their opinion of some of the requirements of the trade.
- Study the course material provided.
- Listen carefully to explanations.
- Adequately express their views on the training program during a group meeting.

PHASE 3:

- Write a report that explains how they arrived at their career choice, taking into account the characteristics and requirements of the trade and their preferences, interests and aptitudes.
- Discuss their career choice with the teacher.

MODULE 2: OCCUPATIONAL HEALTH AND SAFETY

CODE: 759 522

Duration: 30 hours

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

EXPECTED BEHAVIOUR

To demonstrate the required competency, the students must **observe occupational health and safety rules** in accordance with the following conditions, criteria and specifications.

CONDITIONS FOR PERFORMANCE EVALUATION

- In a shop, inside and outside an RV
- Based on questions or simulation exercises dealing with occupational risks and the corresponding preventive measures
- Referring to all relevant material: legislation, codes, material safety data sheets, CSST brochures, etc.

GENERAL PERFORMANCE CRITERIA

- Observance of work methods and techniques intended to minimize the risk of accidents and occupational illness
- Observance of the relevant standards and practices: WHMIS, gas, refrigerants, etc.
- Concern for working ergonomically and safely
- Concern for protecting the environment

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

SPECIFIC PERFORMANCE CRITERIA

A. Organize the shop in a safe manner.

- Observance of the rules for setting up a safe shop:
 - spacious, uncluttered facility
 - appropriate organization of the work area
 - safe installation of machinery and equipment
 - orderly storage of materials and tools
 - adequate lighting

B. Apply the appropriate preventive measures:

- when handling hazardous or toxic materials;
- when using tools, equipment or machinery that present a risk factor;
- when there are physical hazards.

- Accurate identification of hazards and risks
- Application of preventive measures appropriate to the risk factors present
- Selection of personal protective equipment appropriate to the work situation

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

SPECIFIC PERFORMANCE CRITERIA

C. Assume the most ergonomic and safest working position inside and outside the RV.

- Stable, balanced position: legs providing solid support and weight well distributed
- Posture causing the least amount of muscular tension
- Body position and posture that protect the head, face and back

D. Adopt safe behaviours when handling materials.

- Accurate identification of the hazards and risks associated with transporting loads
- Selection and appropriate use of materials handling equipment, depending on the loads to be moved
- Use of appropriate materials handling techniques
- Adoption of safe postures

E. Ensure that the workplace is safe.

- Complete review of the safety rules specific to the task at hand:
 - safe organization of the workplace and workstation
 - application of appropriate preventive measures
 - appropriate use of personal protective equipment

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

F. Respond to an accident or emergency.

SPECIFIC PERFORMANCE CRITERIA

- Accurate assessment of the seriousness of the accident, based on the signs and symptoms
- Prompt communication with the emergency services concerned
- Appropriate care based on the signs and symptoms observed
- Observance of the correct order for administering first aid

Field of Application

In a repair shop and an RV
Act respecting occupational health and safety
 WHMIS, technical manuals
 Equipment, machinery, tools, products and materials

MODULE 3: GENERAL SHOP WORK

CODE: 759 533

Duration: 45 hours

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

EXPECTED BEHAVIOUR

To demonstrate the required competency, the students must **carry out operations associated with general shop work** in accordance with the following conditions, criteria and specifications.

CONDITIONS FOR PERFORMANCE EVALUATION

- In a repair shop and an RV
- Using:
 - tools, measurement instruments and machining equipment
 - written instructions specifying the measurements to be taken
 - a scale drawing and a machining sheet

GENERAL PERFORMANCE CRITERIA

- Observance of health and safety rules
- Accuracy of measurements
- Concern for precision

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

SPECIFIC PERFORMANCE CRITERIA

- | | |
|--|---|
| <p>A. Use hand tools to take a mechanical assembly apart and reassemble it.</p> | <ul style="list-style-type: none"> – Appropriate choice of hand tools – Safe use of the tools – Cleanliness of the tools – Quality of disassembly and reassembly work – Storage of tools |
| <p>B. Use instruments to measure components:</p> <ul style="list-style-type: none"> – according to the International System of units (SI); – according to the imperial system. | <ul style="list-style-type: none"> – Appropriate choice of instruments – Correct use of instruments – Accuracy of readings – Precision of measurements |
| <p>C. Install fasteners.</p> | <ul style="list-style-type: none"> – Appropriate choice of fasteners – Choice of tools appropriate to the fasteners – Observance of work procedures – Quality of the assembly work carried out |
| <p>D. Carry out machining operations on a bench and using machining equipment.</p> | <ul style="list-style-type: none"> – Correct use of tools and machining equipment – Observance of work procedures – Observance of machining techniques – Precision of the work – Conformity of the part with the scale drawing |

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE	
SPECIFICATIONS OF THE EXPECTED BEHAVIOUR	SPECIFIC PERFORMANCE CRITERIA
E. Use shop equipment.	<ul style="list-style-type: none">– Observance of operating procedures– Observance of the limitations of the equipment– Safe and proper use of equipment– Proper maintenance of equipment

MODULE 4: PLANS, TECHNICAL MANUALS AND SKETCHES

CODE: 759 542

Duration: 30 hours

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

EXPECTED BEHAVIOUR

To demonstrate the required competency, the students must **use plans, technical manuals and sketches** in accordance with the following conditions, criteria and specifications.

CONDITIONS FOR PERFORMANCE EVALUATION

- Given:
 - simulation exercises (RV, appliances and equipment)
 - documentation in English and French:
 - general layout of an RV and other plans
 - diagrams of power and water supply systems
 - electrical diagrams and plumbing diagrams
 - material safety data sheets
 - technical manuals (installation, use, maintenance and repair)
 - catalogues
- Following oral instructions

GENERAL PERFORMANCE CRITERIA

- Accurate interpretation of the information in a diagram or plan
- Appropriate use of manuals
- Methodical work
- Attention to detail and concern for precision
- Careful handling of documents
- Use of appropriate terminology, in English and French
- Observance of standards (CSA, WHMIS, etc.)

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

SPECIFIC PERFORMANCE CRITERIA

A. Interpret the codes and symbols.

- Accurate interpretation of the codes and symbols relating to:
 - architecture
 - electrical circuits
 - plumbing systems
 - propane gas supply

B. Relate a plan and a system.

- Accurate location on a plan of a system and its components
- Working from a plan, accurate location of a system and its components in the RV, in an appliance or on a piece of equipment
- Accurate location on a plan, in an RV or on a piece of equipment of the necessary information for carrying out a task

C. Interpret safety warnings.

- Accurate identification of information relating to safety measures
- Correct identification of safety symbols
- Correct association of warnings with the various stages of work

D. Draw sketches.

- Observance of shape and proportions
- Clarity and definition of the drawing
- Inclusion of all relevant information

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

Field of Application

– Read and interpret:

- sets of plans (architectural, structural, building maintenance)
- representations of various systems: heating, refrigeration, energy sources
- views: cross section, section, exploded view
- assembly and disassembly sequences, troubleshooting charts
- symbols and conventions: architectural, mechanical, electrical, electronic
- material safety data sheets
- standards (CSA, etc.)

– Draw:

- job sketch (carpentry)

MODULE 5: CARPENTRY

CODE: 759 554

Duration: 60 hours

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

EXPECTED BEHAVIOUR

To demonstrate the required competency, the students must **do carpentry work** in accordance with the following conditions, criteria and specifications.

CONDITIONS FOR PERFORMANCE EVALUATION

- In a carpentry workshop and an RV
- Using:
 - the appropriate machinery, tools and materials
 - instruction manuals
- Given plans, specifications or diagrams
- Following oral and written instructions

GENERAL PERFORMANCE CRITERIA

- Observance of health and safety rules
- Conformity with the relevant standards and practices (WHMIS, propane gas, etc.)
- Appropriate choice of tools, instruments and machinery
- Conformity of work with established requirements
- Careful work

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

A. Plan and organize the work.

B. Fabricate a unit.

C. Install a unit in an RV.

SPECIFIC PERFORMANCE CRITERIA

- Accurate interpretation of instructions
- Protection of RV interior from soiling and other damage
- Observance of correct measurements
- Precision and cleanness of the cuts
- Rigidity of the frame
- Level unit
- Level, straight surfaces
- Clean lines and rounded corners
- Carefully finished surface
- Well-fitting moldings
- Proper reinforcement of the RV structure
- Precise adjustment of the unit to the fixed structure
- Straight, level unit that is solidly anchored
- Aesthetically pleasing fit of the unit with the RV interior

**FIRST-LEVEL OPERATIONAL OBJECTIVE
BEHAVIOURAL OBJECTIVE**

**SPECIFICATIONS OF THE EXPECTED
BEHAVIOUR**

**SPECIFIC PERFORMANCE
CRITERIA**

D. Modify a unit.

- Modification in conformity with specifications
- Solid, level unit
- Square, even opening
- Proper reinforcement of the RV structure
- Careful finishing
- Aesthetically pleasing fit of the modified unit with the RV interior

E. Adjust a door, a window and a drawer.

- No rubbing between the parts
- Tight seal on the door and window
- Functional lock on the door and window
- Solidity of the frame and hinges
- Solidity of the drawer gliding system
- Level drawer
- Careful finishing

F. Carry out minor repairs on a floor or wall.

- Application of repair techniques appropriate to the floor or wall covering
- Careful finishing

**FIRST-LEVEL OPERATIONAL OBJECTIVE
BEHAVIOURAL OBJECTIVE**

**SPECIFICATIONS OF THE EXPECTED
BEHAVIOUR**

**SPECIFIC PERFORMANCE
CRITERIA**

G. Finish surfaces.

- Quality of retouching and joints
- Even application of varnish, stain or paint
- Solid moldings that match
- Clean-cut corners on the moldings
- Careful finishing

H. Complete the work.

- Careful check of any adjustments made
- Cleanliness of the RV
- Storage of products in conformity with regulations (WHMIS)
- Proper storage of tools and materials

I. Record relevant information.

- Complete record of the work done (work order, service record)
- Precise record of time worked (work sheet)

Field of Application

Table, counter, cupboard, modular bed

MODULE 6: PLUMBING

CODE: 759 565

Duration: 75 hours

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

EXPECTED BEHAVIOUR

To demonstrate the required competency, the students must **do plumbing work** in accordance with the following conditions, criteria and specifications.

CONDITIONS FOR PERFORMANCE EVALUATION

- In an RV
- Using:
 - the appropriate equipment, tools and materials
 - the relevant documents (codes, standards, tables, plans, instruction manuals, troubleshooting charts)
- Following oral and written instructions

GENERAL PERFORMANCE CRITERIA

- Observance of health and safety rules
- Conformity of work with the relevant standards and practices (WHMIS, propane gas, etc.)
- Appropriate choice of tools, instruments and equipment
- Proper use of the appropriate tools, instruments and equipment
- Observance of the manufacturer's instructions
- Installation in conformity with the plans
- Careful, methodical work: leaktight lines that are well supplied and well drained
- Careful execution of the necessary carpentry work

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

SPECIFIC PERFORMANCE CRITERIA

A. Plan and organize the work.

- Accurate interpretation of instructions
- Careful reading of material safety data sheets and technical manuals
- Protection of RV interior from soiling and other damage

B. Prepare the plumbing system to be worked on.

- Water pressure check
- Drainage of entire system

C. Replace a fixture, an accessory or a component.

- Choice of fixture compatible with the system
- Leaktight fittings
- Fixture solidly anchored
- Fixture levelled, if necessary
- Smooth operation of the system

D. Repair a component of the pipes and fittings.

- Accurate identification of the problem
- Choice of compatible components, materials and sealants (jointing compound or plumber's tape)
- Leaktight fittings
- Smooth operation of the system

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

SPECIFIC PERFORMANCE CRITERIA

E. Install a new fixture or accessory.

- Appropriate placement of the fixture (accessibility, balance with other fixtures)
- Appropriate choice of fixture (size, features)
- Leaktight installation of the required pipes, drains, valves and fittings
- Solid, level installation of the fixture or accessory
- Smooth operation of the fixture

F. Maintain holding tanks.

- Use of appropriate products
- Systematic cleaning of vents
- Thorough cleaning and disinfection of holding tanks

G. Complete the work.

- Careful check to establish that water lines are leaktight
- Systematic check of the functioning of the plumbing system
- Cleanliness of the RV
- Storage of products in conformity with regulations (WHMIS, propane gas)
- Proper storage of tools and materials

**FIRST-LEVEL OPERATIONAL OBJECTIVE
BEHAVIOURAL OBJECTIVE**

**SPECIFICATIONS OF THE EXPECTED
BEHAVIOUR**

H. Record relevant information.

**SPECIFIC PERFORMANCE
CRITERIA**

- Complete record of the work done (work order and service record)
- Clear diagram of the modified lines
- Accurate, relevant details (insurance claims, warranty)
- Precise record of time worked (work sheet)

MODULE 7: MAINTAINING AN RV

CODE: 759 572

Duration: 30 hours

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

EXPECTED BEHAVIOUR

To demonstrate the required competency, the students must **maintain an RV** in accordance with the following conditions, criteria and specifications.

CONDITIONS FOR PERFORMANCE EVALUATION

- In an RV repair shop
- Using:
 - the appropriate equipment, tools and materials
 - the relevant documents (codes, standards, tables, plans, instruction manuals, troubleshooting charts)
- Following oral and written instructions

GENERAL PERFORMANCE CRITERIA

- Observance of health and safety rules
- Conformity of work with the relevant standards and practices (WHMIS, propane gas, etc.)
- Appropriate choice of tools, instruments and equipment
- Proper use of the appropriate tools, instruments and equipment
- Conformity of work with established requirements
- Observance of the manufacturer's instructions
- Careful work

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

SPECIFIC PERFORMANCE CRITERIA

A. Prepare the RV for winter storage.

- Thorough draining of pipes, tanks and any equipment that uses water
- Adequate injection of nontoxic antifreeze into the pipes
- Proper installation of a bypass system
- Systematic cleaning of any equipment through which water circulates
- Protection of:
 - openings (vents, ventilation and service access)
 - domes
 - pressure regulators
 - locks
 - unpainted aluminum surfaces
 - slide-outs
- Leaktight closing of propane gas tanks
- Disconnection of battery
- Slight tilting of vehicle

B. Carry out mechanical maintenance on the RV.

- Adequate greasing of ball bearings
- Careful adjustment of brakes
- Rotation of tires
- Careful adjustment of the torque on the wheel lugs

**FIRST-LEVEL OPERATIONAL OBJECTIVE
BEHAVIOURAL OBJECTIVE**

**SPECIFICATIONS OF THE EXPECTED
BEHAVIOUR**

**SPECIFIC PERFORMANCE
CRITERIA**

C. Maintain the body of the RV.

- Thorough washing of RV exterior
- Even application of wax
- Paint touch-ups
- Proper tightening of the anchor screws on exterior accessories
- Resealing of cracked seams

D. Record relevant information.

- Complete record of the work done (work order, service record)
- Accurate, relevant details (insurance claims, warranty)
- Precise record of time worked (work sheet)

MODULE 8: WELDING AND CUTTING

CODE: 759 582

Duration: 30 hours

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

EXPECTED BEHAVIOUR

To demonstrate the required competency, the students must **apply welding and cutting techniques** in accordance with the following conditions, criteria and specifications.

CONDITIONS FOR PERFORMANCE EVALUATION

- Given:
 - plans, sketches and instruction manuals
 - oral and written instructions
- Using:
 - ferrous and nonferrous metals (copper, steel)
 - metal filler rods (steel, bronze)
 - nonmetallic material (polyethylene)
 - oxyacetylene welding equipment
 - arc welding equipment and M.I.G.
 - tools, equipment and accessories
 - safety equipment

GENERAL PERFORMANCE CRITERIA

- Observance of health and safety rules
- Observance of standards and rules relating to compressed gas (WHMIS, etc.)
- Use of proper technique
- Appropriate use of tools and equipment
- Careful, orderly work
- Quality cuts and welds
- Conformity with requirements

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

SPECIFIC PERFORMANCE CRITERIA

A. Assess the nature of the work to be carried out.

- Accurate interpretation of the work plan and instructions
- Appropriate choice of welding technique

B. Prepare to do the work:

- set up the oxyacetylene welding equipment;
- prepare the pieces (plates, pipes and channels).

- Appropriate choice of tools, materials and gas
- Careful handling of pressure regulating valves and welding tips
- Leaktightness of fittings
- Appropriate choice of filler rods (type and diameter)
- Application of individual and collective protective measures
- Appropriate preparation of pieces to be welded
- Switching off of electric circuits

C. Set up the electric arc welding equipment.

- Proper setup
- Appropriate choice of accessories
- Proper adjustment of electrical intensity

D. Carry out flat welding on metals.

- Adherence to the plan or sketch
- Observance of methods and technique
- Level installation

E. Carry out oxyacetylene cutting on metals (in the flat and vertical positions).

- Adherence to the plan or sketch
- Observance of methods and technique

**FIRST-LEVEL OPERATIONAL OBJECTIVE
BEHAVIOURAL OBJECTIVE**

**SPECIFICATIONS OF THE EXPECTED
BEHAVIOUR**

**SPECIFIC PERFORMANCE
CRITERIA**

F. Clean the cuts and welds.

- Observance of safety standards
- Cleanness of cuts and welds

G. Visually evaluate the cuts and welds.

- Systematic examination of cuts and welds
- Straightness and cleanness of cuts
- Cleanness of welds

H. Clean up the work area.

- Orderliness and cleanliness of the work area
- Storage of products in conformity with regulations (WHMIS)
- Proper storage of tools and materials

MODULE 9: HEALTH AND SAFETY: PROPANE GAS

CODE: 759 592

Duration: 30 hours

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

EXPECTED BEHAVIOUR

To demonstrate the required competency, the students must **observe health and safety rules for working with propane gas** in accordance with the following conditions, criteria and specifications.

CONDITIONS FOR PERFORMANCE EVALUATION

- Given:
 - questions or simulation exercises characterizing the risks associated with propane gas and the corresponding preventive measures
 - oral and written instructions
- Using any relevant documentation: legislation, codes and regulations, material safety data sheets, etc.

GENERAL PERFORMANCE CRITERIA

- Strict application of the code, amendments and standards
- Use of safe work methods and techniques

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

- A. Establish a procedure, using the propane gas code and amendments to it.
- B. Identify the hazards associated with propane gas.
- C. Use, handle and store propane gas tanks and cylinders.
- D. Fill a propane gas cylinder.

SPECIFIC PERFORMANCE CRITERIA

- Appropriate choice of table
- Accurate, relevant information
- Accurate calculations
- Accurate and complete identification of hazards
- Correct application of the relevant safety rules
- Clear, precise and complete justification of the rules
- Correct application of the relevant safety rules
- Clear, precise and complete justification of the rules
- Painsstaking check of the condition of the cylinder
- Complete purging of the cylinder
- Total leaktightness of the cylinder

Field of Application

In a repair shop and an RV

Excludes work that must be done by a qualified professional

MODULE 10: PROPANE GAS

CODE: 759 604

Duration: 60 hours

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

EXPECTED BEHAVIOUR

To demonstrate the required competency, the students must **operate a propane gas supply system smoothly** in accordance with the following conditions, criteria and specifications.

CONDITIONS FOR PERFORMANCE EVALUATION

- In a repair shop and an RV
- Using:
 - the appropriate equipment, tools and materials
 - the appropriate documents: codes, standards and regulations, tables, instruction manuals, troubleshooting charts
- Following oral and written instructions

GENERAL PERFORMANCE CRITERIA

- Strict observance of health and safety rules for working with propane gas
- Observance of occupational health and safety rules
- Observance of laws and regulations pertaining to propane gas installation
- Conformity with the relevant standards (WHMIS)
- Appropriate choice of tools, instruments and machines
- Proper use of the appropriate tools, instruments and machines
- Observance of the manufacturer's instructions
- Careful work
- Cleanup of the worksite

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

SPECIFIC PERFORMANCE CRITERIA

A. Look for leaks and run leak tightness tests.

- Observance of the selected methods
- Constant concern for safety

B. Adjust the components of an appliance.

- Proper adjustment of the following components:
 - burner
 - pilot burner
 - control device
 - regulator
- Proper functioning of components
- Proper functioning of the appliance

C. Adjust the flame of a burner.

- Accurate calculation of flow, pressure and volume
- Systematic referral to reference works
- Accurate determination of the diameter of the lines
- Balance between the air intake and gas exhaust
- Shape, height and colour of flame in conformity with standards

D. Adjust and repair a regulator.

- Observance of the standards for repairing a regulator
- Adjustment in conformity with the standards
- Replacement of parts as required
- Smooth functioning of the regulator

MODULE 11: INSTALLING GAS APPLIANCES

CODE: 759 613

Duration: 45 hours

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

EXPECTED BEHAVIOUR

To demonstrate the required competency, the students must **install a propane gas appliance** in accordance with the following conditions, criteria and specifications.

CONDITIONS FOR PERFORMANCE EVALUATION

- In a repair shop and an RV
- Using:
 - the appropriate equipment, tools and materials
 - the appropriate documents: codes, standards and regulations, instruction manuals, material safety data sheets, troubleshooting charts
- Given plans and installation diagrams
- Following oral and written instructions

GENERAL PERFORMANCE CRITERIA

- Strict observance of health and safety rules for working with propane gas
- Observance of occupational health and safety rules
- Observance of the laws and regulations pertaining to the installation of propane gas
- Conformity with the relevant standards (WHMIS, CSA, refrigerants, etc.)
- Appropriate choice of tools, instruments and machinery
- Proper use of the appropriate tools, instruments and machinery
- Observance of the manufacturer's instructions
- Installation in conformity with plans and diagrams
- Careful work: safe, leaktight, well-supplied and well-ventilated gas lines
- Careful execution of any necessary carpentry, electrical and plumbing work
- Cleanup of the worksite

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

A. Plan and organize the work.

B. Install a propane gas appliance.

SPECIFIC PERFORMANCE CRITERIA

- Accurate interpretation of installation instructions, plans and diagrams
- Careful reading of technical manuals and material safety data sheets
- Protection of RV interior against soiling and other damage
- Application of the relevant safety measures

- Choice of an appliance with a capacity that is in conformity with the standards
- Appropriate placement of the appliance
- Fittings in conformity with standards
- Leaktightness of joints and fittings
- Adequate protection of pipes
- Solid attachment of the pipes to the vehicle
- Ventilation of the appliance in conformity with standards
- Solid, level installation of the appliance

**FIRST-LEVEL OPERATIONAL OBJECTIVE
BEHAVIOURAL OBJECTIVE**

**SPECIFICATIONS OF THE EXPECTED
BEHAVIOUR**

**SPECIFIC PERFORMANCE
CRITERIA**

C. Complete the work.

- Careful checking to ensure that the system is leaktight
- Systematic checking to establish that the appliance is in good working order
- Cleanliness of the RV
- Storage of products in conformity with regulations (WHMIS, propane gas)
- Appropriate storage of tools and materials

D. Record relevant information.

- Complete record of the work done (work order, service record)
- Precise record of time worked (work sheet)

MODULE 12: ELECTRICITY

CODE: 759 623

Duration: 45 hours

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

EXPECTED BEHAVIOUR

To demonstrate the required competency, the students must **apply basic electrical techniques** in accordance with the following conditions, criteria and specifications.

CONDITIONS FOR PERFORMANCE EVALUATION

- In a repair shop and an RV
- Using:
 - the appropriate equipment, tools and materials
 - the appropriate documents: codes, standards, tables, technical manuals, troubleshooting charts
- Following oral and written instructions

GENERAL PERFORMANCE CRITERIA

- Observance of health and safety rules
- Observance of electricity and refrigeration standards
- Conformity with the appropriate standards (WHMIS, CSA, propane gas, refrigerants)
- Observance of common practices
- Appropriate choice of tools, instruments and machinery
- Proper use of the appropriate tools, instruments and machinery
- Conformity of work with requirements

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

SPECIFIC PERFORMANCE CRITERIA

A. Read the diagram for an electric circuit and the material safety data sheet for an electrical appliance.

- Use of proper terminology
- Correct interpretation of symbols and conventions

B. Check the capacity of an electrical installation.

- Precise calculation of the number of amperes required during the charging of the batteries
- Precise calculation of the number of amperes available at the source
- Balance between the source and the batteries
- Appropriate wiring and protective device

C. Check an electrical installation.

- Exact measurement of voltage:
 - at the source
 - at the panelboard
 - at the battery
- Accuracy of the polarity of the voltage
- Exact measurement of the amperage of a circuit
- Exact differentiation of the conductors of a circuit
- Proper functioning of control circuits
- Complete insulation of the circuit

D. Make electrical connections.

- Appropriate choice of materials and of junction box placement
- Appropriate gauge of wire
- Connections accessible, solid, well insulated, and in conformity with standards

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE	
SPECIFICATIONS OF THE EXPECTED BEHAVIOUR	SPECIFIC PERFORMANCE CRITERIA
E. Maintain a battery.	<ul style="list-style-type: none">– Sufficient level of acid– Battery posts clean and well tightened– Adequate charge
Field of Application Electric circuit and electrical appliances, excluding electronic and refrigeration components Direct current and alternating current Generator	

MODULE 13: ELECTRICAL APPLIANCES

CODE: 759 636

Duration: 90 hours

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

EXPECTED BEHAVIOUR

To demonstrate the required competency, the students must **install and repair electrical appliances** in accordance with the following conditions, criteria and specifications.

CONDITIONS FOR PERFORMANCE EVALUATION

- In a repair shop and an RV
- Given:
 - the appropriate appliances, tools and materials
 - the appropriate documents: codes, standards, tables, instruction manuals, material safety data sheets and troubleshooting charts
- Following oral and written instructions

GENERAL PERFORMANCE CRITERIA

- Observance of health and safety rules
- Observance of environmental protection standards relating to refrigerants
- Observance of standards pertaining to electricity
- Conformity with the relevant standards (WHMIS, CSA, propane gas, refrigerants, etc.)
- Appropriate choice of tools, instruments and machinery
- Proper use of the appropriate tools, instruments and machinery
- Conformity with requirements
- Observance of the manufacturer's instructions
- Installation in conformity with plans
- Careful work: functioning, safe circuit and appliances
- Careful execution of the necessary carpentry work, plumbing and gas installation
- Cleanup of the worksite

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

SPECIFIC PERFORMANCE CRITERIA

A. Plan and organize the work.

- Accurate interpretation of instructions
- Careful reading of technical manuals and material safety data sheets
- Protection of RV interior against soiling and other damage
- Shutting off of the electric circuit

B. Install a new electrical appliance.

- Choice of an appliance of appropriate capacity
- Appropriate placement of the appliance
- Appropriate modification of the circuit, taking into account the new electrical requirements (AC)
- Solid, level attachment of the appliance to the vehicle
- Solid, well-insulated connections
- Conformity with the specifications of the rating plate
- Proper operation of the appliance

C. Repair an electric circuit.

- Systematic troubleshooting
- Identification of the problem
- Replacement of the defective parts (generator, battery, connection, wiring, protective device)
- Proper operation of the circuit

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

SPECIFIC PERFORMANCE CRITERIA

D. Repair an electrical appliance.

- Systematic troubleshooting
- Identification of the problem
- Replacement of defective parts
- Appropriate precautions with refrigeration components

E. Complete the work.

- Systematic check of the system
- Cleanliness of the RV
- Storage of products in conformity with regulations (WHMIS, propane gas)
- Appropriate storage of tools and materials

F. Record relevant information

- Complete record of the work done (work order, service record)
- Accurate, relevant details (insurance claims, warranty)
- Precise record of time worked (work sheet)

Field of Application

Direct current (DC) and alternating current (AC)

Install: an electrical appliance

Repair: the electric circuit, excluding the main control box; any electrical household appliance, excluding the electronic components and the refrigeration system

MODULE 14: MAINTAINING AND REPAIRING A GAS SYSTEM AND GAS APPLIANCES

CODE: 759 644

Duration: 60 hours

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

EXPECTED BEHAVIOUR

To demonstrate the required competency, the students must **maintain and repair a gas supply system and propane gas appliances** in accordance with the following conditions, criteria and specifications.

CONDITIONS FOR PERFORMANCE EVALUATION

- In a repair shop and an RV
- Using:
 - the appropriate equipment, tools and materials
 - the appropriate documents: code, standards and regulations, tables, hook-up diagrams, technical manuals, troubleshooting charts
- Following oral and written instructions

GENERAL PERFORMANCE CRITERIA

- Strict observance of health and safety rules relating to propane gas
- Observance of occupational health and safety rules
- Observance of the laws and regulations pertaining to the installation of propane gas
- Conformity with the relevant standards (WHMIS, CSA)
- Appropriate choice of tools, instruments, and machinery
- Proper use of the appropriate tools, instruments and machinery
- Observance of the manufacturer's instructions
- Installation in conformity with plans and diagrams
- Careful work: leaktight appliance and lines, good ventilation
- Careful execution of any required carpentry, electrical and plumbing work
- Cleanup of the worksite

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

SPECIFIC PERFORMANCE CRITERIA

A. Plan and organize the work.

- Accurate interpretation of instructions, plans and hook-up diagrams
- Careful reading of technical manuals, and material safety data sheets
- Protection of RV interior from soiling and other damage

B. Prepare the gas supply system to be worked on.

- Systematic check of gas pressure
- Meticulous check for gas leaks
- Systematic measurement of electrical voltage
- Total shutoff of gas
- Thorough purge of the system

C. Pull out appliance or component to be repaired.

- Turning off of appliance
- Correct disconnecting of the appliance from power sources (gas, electricity) and water supply
- Careful handling

D. Repair the system or appliance.

- Systematic troubleshooting
- Precise adjustment of pilot light and burner
- Cleanliness of the burner, openings and chimney
- Cleaning of pipes and flues
- Replacement of defective parts and components

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

SPECIFIC PERFORMANCE CRITERIA

E. Check the quality of the repair.

- Total leaktightness of:
 - the gas lines
 - the lines from the appliance to the gas, electrical and water lines
 - the contour of the moving parts of the body
- Appropriate gas pressure and flow
- Appropriate air and gas calibration
- Proper operation of the appliance

F. Complete the work.

- Cleanliness of the RV
- Storage of products in conformity with regulations (WHMIS, propane gas)
- Appropriate storage of tools and materials

G. Record relevant information.

- Complete record of the work done (work order, service record)
- Accurate, relevant details (insurance claims, warranty)
- Precise record of time worked (work sheet)

Field of Application

Excludes electronic and refrigeration system components

MODULE 15: INSTALLING AND REPAIRING ACCESSORIES

CODE: 759 653

Duration: 45 hours

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

EXPECTED BEHAVIOUR

To demonstrate the required competency, the students must **install and repair accessories** in accordance with the following conditions, criteria and specifications.

CONDITIONS FOR PERFORMANCE EVALUATION

- In a repair shop and on the outside of an RV
- Using:
 - the appropriate equipment, tools and materials
 - the appropriate documents: technical manuals, tables, plans, troubleshooting charts
- Following oral and written instructions

GENERAL PERFORMANCE CRITERIA

- Observance of health and safety rules
- Conformity with the relevant standards (WHMIS)
- Appropriate choice of tools, instruments and machinery
- Proper use of the appropriate tools, instruments and machinery
- Conformity of work with requirements
- Careful work

**FIRST-LEVEL OPERATIONAL OBJECTIVE
BEHAVIOURAL OBJECTIVE**

**SPECIFICATIONS OF THE EXPECTED
BEHAVIOUR**

**SPECIFIC PERFORMANCE
CRITERIA**

A. Plan and organize the work.

- Accurate interpretation of specifications
- Consideration of the technical features of the accessory
- Observance of the manufacturer's recommendations and precautions

B. Install an accessory.

- Placement in conformity with conventional usage and the manufacturer's recommendations
- Firmly attached accessory (level and square)
- Aesthetically pleasing fit with the RV exterior
- Leaktightness of exterior installation

C. Repair an accessory.

- Identification of the problem
- Replacement of the defective part
- Careful finishing

D. Complete the work.

- Careful check of the work done
- Proper operation of the accessory
- Storage of products in conformity with regulations (WHMIS, propane gas)
- Appropriate storage of tools and materials

**FIRST-LEVEL OPERATIONAL OBJECTIVE
BEHAVIOURAL OBJECTIVE**

**SPECIFICATIONS OF THE EXPECTED
BEHAVIOUR**

E. Record relevant information.

**SPECIFIC PERFORMANCE
CRITERIA**

- Complete record of the work done (work order, service contract)
- Accurate, relevant details (insurance claims, warranty, if applicable)
- Precise record of time worked (work sheet)

Field of Application

Awnings, antenna or mechanical jack

MODULE 16: COMMUNICATION

CODE: 759 662

Duration: 30 hours

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

EXPECTED BEHAVIOUR

To demonstrate the required competency, the students must **communicate in the workplace** in accordance with the following conditions, criteria and specifications.

CONDITIONS FOR PERFORMANCE EVALUATION

- Given simulation exercises
- Using reference documents
- Following oral instructions

GENERAL PERFORMANCE CRITERIA

- Clarity of expression
- Appropriate terminology
- Attentive and polite listening

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

- A. Greet customers.

- B. Explain how to operate the RV and its appliances, the precautions that should be taken, and routine maintenance.

- C. Justify their assessment and actions.

SPECIFIC PERFORMANCE CRITERIA

- Courteous exchange
- Use of appropriate communication technique
- Accurate perception of needs
- Courteous leavetaking

- Clear, precise explanations
- Precise terminology
- Examples
- Clear and thorough explanation of required safety measures

- Clear, precise explanations
- Precise vocabulary

Field of Application

Customers: greeting, explanations, instructions, advice

Colleagues: explain a situation or problem, seek and provide a professional opinion

MODULE 17: PREPARING AN RV FOR DELIVERY

CODE: 759 673

Duration: 45 hours

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

EXPECTED BEHAVIOUR

To demonstrate the required competency, the students must **prepare an RV for delivery** in accordance with the following conditions, criteria and specifications.

CONDITIONS FOR PERFORMANCE EVALUATION

- In a repair shop or a garage
- Using:
 - the appropriate equipment, tools and materials
 - the appropriate documents: tables, instruction manuals, plumbing diagrams
- Following oral and written instructions

GENERAL PERFORMANCE CRITERIA

- Observance of health and safety rules
- Conformity with the relevant standards and practices (WHMIS, propane gas, etc.)
- Appropriate choice of tools, instruments and machinery
- Proper use of the appropriate tools, instruments and machinery
- Conformity with requirements
- Observance of the manufacturer's instructions
- Installation in conformity with specifications
- Careful work

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

SPECIFIC PERFORMANCE CRITERIA

A. Plan and organize the work.

- Consideration of the technical features of the towing accessories to be installed
- Observance of manufacturer's instructions and precautions

B. Install the hitch on the towing vehicle.

- Appropriate choice of hitch
- Solid assembly of hitch in conformity with requirements
- Appropriate, safe placement of hitch
- Hitch centred, level and without scratches
- Solidity of the installation

C. Install a stabilizer bar and torsion bars on the towed vehicle.

- Hitch firmly attached
- Appropriate tension
- Solid attachment to hitches
- Adjustment of chains

D. Do the hook-ups between the towing vehicle and the towed vehicle:

- running lights;
- electric brakes;
- safety break-away switch

- Appropriate choice of cables
- Wire properly welded and covered
- Installation of a circuit breaker between the battery and the brake control
- Installation of safety break-away switch on a non-moving part
- Proper operation of lights and brakes

E. Install the accessories required to drive the vehicle.

- Appropriate positioning of mirrors
- Solid installation of mirrors and wind deflectors (level and functional)

**FIRST-LEVEL OPERATIONAL OBJECTIVE
BEHAVIOURAL OBJECTIVE**

**SPECIFICATIONS OF THE EXPECTED
BEHAVIOUR**

**SPECIFIC PERFORMANCE
CRITERIA**

F. Level the RV.

- Appropriate choice of site
- Appropriate choice of support materials
- Ideal level

G. Record relevant information.

- Complete record of the work done (work order, service record)
- Precise record of time worked (work sheet)

MODULE 18: INSPECTING AN RV

CODE: 759 682

Duration: 45 hours

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

EXPECTED BEHAVIOUR

To demonstrate the required competency, the students must **inspect an RV** in accordance with the following conditions, criteria and specifications.

CONDITIONS FOR PERFORMANCE EVALUATION

- In an RV repair shop
- Using:
 - the appropriate equipment, tools and materials
 - an inspection sheet
- Given the service record, plans and diagrams
- Following oral and written instructions

GENERAL PERFORMANCE CRITERIA

- Observance of health and safety rules
- Observance of standards pertaining to propane gas
- Conformity of work with the relevant standards (WHMIS, propane gas, refrigerants, etc.)
- Appropriate choice of tools, instruments and machinery
- Proper use of the appropriate tools, instruments and machinery
- Thorough, systematic examination of the vehicle
- Observance of the required inspection procedure

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

A. Carry out an inspection using the following senses: smell, sight and touch.

B. Check the power and water supply systems.

SPECIFIC PERFORMANCE CRITERIA

- Systematic inspection of:
 - general cleanliness of vehicle interior and exterior
 - overall appearance
 - the weight distribution of the RV
 - solidity of the installation of equipment, appliances and accessories
 - levelling of appliances and accessories
 - leaktightness of lines
- Identification of suspicious odours, defects and shortcomings
- Relevant conclusions

- Systematic check of:
 - leaktightness of the water lines and holding tanks
 - water pressure
 - efficiency of drains and ventilation
 - voltage of the electrical sources
 - cleanliness of the generator
 - grounding and electrical breakers
 - leaktightness of the propane gas lines
 - propane gas pressure
 - quantity of gas
 - gas leak detector
- Relevant conclusions

**FIRST-LEVEL OPERATIONAL OBJECTIVE
BEHAVIOURAL OBJECTIVE**

**SPECIFICATIONS OF THE EXPECTED
BEHAVIOUR**

**SPECIFIC PERFORMANCE
CRITERIA**

C. Start up the appliances and accessories.

- Systematic inspection of appliances and accessories:
 - operation
 - safety
 - appliance amperage
 - ventilation
- Identification of corrective measures to be taken
- Identification of hazards
- Relevant conclusions

D. Record relevant information.

- Complete record of the work done (work order, service record)
- Clear, relevant comments
- Accurate, relevant details (insurance claims, warranty)
- Precise record of time worked (work sheet)

MODULE 19: REPAIRING AND MODIFYING AN RV

CODE: 759 696

Duration: 90 hours

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

EXPECTED BEHAVIOUR

To demonstrate the required competency, the students must **repair and modify an RV** in accordance with the following conditions, criteria and specifications.

CONDITIONS FOR PERFORMANCE EVALUATION

- In a repair shop and an RV
- Using:
 - the appropriate equipment, tools and materials
 - the appropriate documents: codes, standards, tables, plans, instruction manuals and troubleshooting charts
- Following oral and written instructions

GENERAL PERFORMANCE CRITERIA

- Observance of health and safety rules
- Conformity with the relevant standards and conventions (WHMIS, CSA, etc.)
- Appropriate choice of tools, instruments and machinery
- Proper use of the appropriate tools, instruments and machinery
- Conformity of the work with requirements
- Observance of the manufacturer's instructions
- Installation in conformity with plans
- Careful work
- Even distribution of weight inside the vehicle

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

SPECIFIC PERFORMANCE CRITERIA

A. Plan and organize the work.

- Accurate interpretation of instructions
- Careful reading of technical manuals and material safety data sheets
- Protection of RV interior against soiling and other damage

B. Modify the interior of an RV.

- Appropriate reinforcement of the framework
- Solid attachment of a partition to the framework (level and square)
- Careful renovation of floor, walls and ceilings
- Appropriate covering of floor and walls

C. Make a new opening in the body.

- Appropriate placement of opening
- Appropriate reinforcement of the framework
- Solid attachment of the framing to the structure (level and square)
- Leaktightness of the installation

D. Replace or modify the RV exterior.

- Proper fit and finish of aluminum sheet metal or a fibreglass section
- Careful installation of a rubber covering on the roof
- Proper fit and finish of new moldings and rain gutters
- Leaktightness of fittings

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

SPECIFIC PERFORMANCE CRITERIA

E. Repair a jack or hydraulic slide-out.

- Troubleshooting from a chart
- Identification of the problem
- Replacement of defective components
- Lubrication and cleaning of moving parts
- Total leaktightness of fittings

F. Complete the work.

- Careful check of any adjustments made
- Careful finishing
- Well-fitting joints
- Pleasing overall appearance
- Cleanliness of the RV
- Storage of products in conformity with regulations (WHMIS)
- Appropriate storage of tools and materials

G. Record relevant information.

- Complete record of the work done (work order, service record)
- Clear, clean and complete drawing of modified circuits
- Accurate, relevant details (insurance claims, warranty)
- Precise record of time worked (work sheet)

<p>FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE</p>
<p>Field of Application</p> <p>Vehicle chassis; interior; floor, wall and ceiling coverings; jacks and hydraulic slide-outs</p>

MODULE 20: JOB SEARCH TECHNIQUES

CODE: 759 702

Duration: 30 hours

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

EXPECTED BEHAVIOUR

To demonstrate the required competency, the students must **use job search techniques** in accordance with the following conditions, criteria and specifications.

CONDITIONS FOR PERFORMANCE EVALUATION

- Using the relevant documentation: company directories, newspapers, sample résumés and covering letters
- In a simulation

GENERAL PERFORMANCE CRITERIA

- Observance of the rules for submitting documents
- Courteousness
- Observance of the usual job application procedure

FIRST-LEVEL OPERATIONAL OBJECTIVE BEHAVIOURAL OBJECTIVE

SPECIFICATIONS OF THE EXPECTED BEHAVIOUR

SPECIFIC PERFORMANCE CRITERIA

A. Plan a job search strategy.

- Relevance of the means selected

B. Write up a résumé.

- Relevance of the information
- Concise, coherent style
- Quality of written language
- Proper presentation

C. Write a job application letter.

- Observance of the conventions of writing this type of letter: plan, content, general presentation, style, spelling

D. Prepare for and go to a selection interview.

- Identification of the selection criteria specific to the job
- Appropriate description of the company
- Courtesy
- Attentive listening
- Relevant answers
- Clarity of expression

MODULE 21: ENTERING THE WORK FORCE

CODE: 759 714

Duration: 60 hours

FIRST-LEVEL OPERATIONAL OBJECTIVE SITUATIONAL OBJECTIVE

EXPECTED OUTCOME

By participating in the required activities of the learning context according to the indicated criteria, the students will be able to **enter the work force.**

SPECIFICATIONS

During this module, the students will:

- Integrate the knowledge and skills acquired during training.
- Consolidate attitudes and habits with respect to the quality of work, professional ethics, occupational health and safety, etc.
- Broaden their skills and knowledge.
- Assess what they have learned in relation to the requirements of the trade.

LEARNING CONTEXT

PHASE 1: **Preparation to Do a Practicum / Familiarization With the Practicum Process and the Workplace Where the Student Has Been Placed**

- Becoming familiar with the work context: details about the place where the practicum will be done, internal structure and working conditions.
- Setting personal practicum objectives relating to the consolidation of what they have learned and the acquisition of new competencies.

FIRST-LEVEL OPERATIONAL OBJECTIVE SITUATIONAL OBJECTIVE

LEARNING CONTEXT

PHASE 2: **Participating in Company Activities**

- Becoming part of the company work team, following its procedures and schedule.
- Performing in part or in whole various tasks associated with RV repair.
- Becoming familiar with new working techniques and procedures.
- Expanding their knowledge about the reality of working in the trade (organization, working conditions, health and safety, etc.).
- Keeping a journal.

PHASE 3: **Evaluation**

- Discussing the practicum experience.
- Writing a report on their practicum.
- Participating in the evaluation of their practicum.

INSTRUCTIONAL GUIDELINES

The teacher should:

- Ensure that there is close collaboration between the school and the company.
- Ensure that the student has an opportunity to observe and perform a variety of occupational tasks.
- Ensure that the students are supervised by a responsible person in the company.
- Provide periodic guidance for the students.
- Create conditions promoting discussion between students and RV repair workers.
- Promote exchanges of opinion among students.
- Take action in cases of difficulties or problems.
- Provide support in the writing of a journal.

FIRST-LEVEL OPERATIONAL OBJECTIVE SITUATIONAL OBJECTIVE

PARTICIPATION CRITERIA

PHASE 1:

- Carefully observe the work context and the way work is organized.
- Try to identify the characteristics of the way the workplace is organized.
- Try to understand the practical organization of the practicum and the associated responsibilities.
- Set realistic objectives.

PHASE 2:

- Follow company guidelines (activities they are allowed to participate in as trainees, working hours, rules of professional ethics).
- Try to observe occupational health and safety rules.
- Show openness and curiosity, find out about the work methods, techniques and tools used.
- Participate actively in tasks specific to the trade.

PHASE 3:

- Participate actively in group discussions by showing an interest in the experiences reported by their peers.
- Relate their experience by clearly describing the main aspects of their practicum.
- Relate the competencies acquired in school to those required in the workplace.
- Give their perception of the workplace.
- Evaluate their strengths and weaknesses.

Éducation

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