

Issued: December 4, 2018

Program: Recreation Vehicle Service Technician (RVST)

To: ITA Training Providers
Articulation Chair
System Liaison Person
School Districts

Subject: **RVST Program Update**

OPSN No.: **OPSN 2018 023**

Effective Date: September 1, 2019

Summary of Change: Please be advised that a new Program Outline has been posted to the Industry Training Authority (ITA) [website](#). For details, please see ***RVST Program Review Details*** (attached).

Rationale: The RVST Program Outline was reviewed at the request of industry in order to align it to the current National Occupational Analysis (NOA), 2012, and current industry technology and practices.

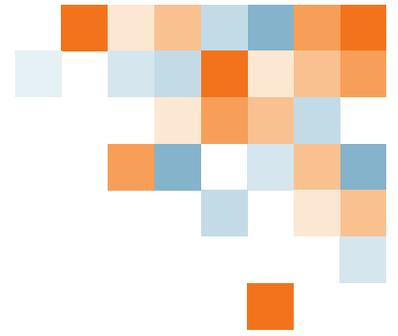
Details: A review of the BC RVST Program Outline to align it to the NOA (2012) was conducted in June 2018. The structure of the Occupational Analysis Chart was changed substantially, although the levels that topics are covered in was left the same. Furthermore, achievement criteria were added to some competencies to standardize the assessment of practical tasks.

Because this trade is not being harmonized at this time, and because the changes are within levels rather than across levels, ITA will not be developing a transition plan to support the implementation of this Program Outline. All three levels of technical training will be implemented on September 1, 2019.

ITA will be developing Standardized Level Exams (SLE) for Level 1 and Level 2 according to the tentative schedule below:

	Development	Validation	Launch
Level 1	January 2019	Late 2019	Early 2020
Level 2	Late 2019	Mid 2020	Late 2020

The launch of the SLE will be announced in separate Official Program Standards Notifications (OPSN).



Attachments: *RVST Program Review Details*

This attachment provides details of the revisions made to the RVST Program Outline during the review process.

**For more
information
contact:**

ITA Program Standards
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cc: All Staff

Document Overview

This document provides information about the revised RVST Program Outline (2018) that will be implemented September 1, 2019. It contains three sections:

Part 1- Summary - Competency Migration

Page 2

- Shows the new competency titles across the three levels
- Indicates if a competency is new or has moved to a different level

Part 2 - Details of Changes to Program Outline: 2008 vs. 2018 Comparison

Page 5

- Shows where the content of the 2008 Program Outline moved
- Side by side comparison of 2008 and 2018 Program Outlines

Part 3 – List of Achievement Criteria Added

Page 14

- Explains the purpose of achievement criteria
- Shows the new achievement criteria per level and per competency

Part 1- Summary - Competency Migration

Overall: The Occupational Analysis Charts (OACs) for RVST have been combined and aligned to the National Occupational Analysis (2012). All of the competencies have been renamed and restructured. This chart shows the finalized competency distribution for the new RVST program. See below for details of changes

New Level 1		New Level 2		New Level 3	
A	PERFORM SAFETY-RELATED ACTIVITES				
A1	Use personal protective equipment (PPE) and safety equipment				
A2	Maintain safe work environment				
B	USE TOOLS AND EQUIPMENT				
B1	Use tools and equipment				
B2	Use lifting, moving and access equipment				
C	PERFORM COMMON WORK PRACTICES			C	PERFORM COMMON WORK PRACTICES
C1	Use technical information			C1	Use technical information
C2	Performs pre-delivery inspections (PDI)				
C3	Use communication techniques			C3	Use communication techniques
				C4	Perform estimation procedures
D	SERVICE WATER SYSTEMS				
D1	Service potable water systems				
D2	Service waste water systems				
F	SERVICE ELECTRICAL SYSTEM	F	SERVICE ELECTRICAL SYSTEM	F	SERVICE ELECTRICAL SYSTEM
F1	Apply electrical theory				
F2	Service AC electrical systems	F2	Service AC electrical systems	F2	Service AC electrical systems
F3	Service DC electrical systems	F3	Service DC electrical systems	F3	Service DC electrical systems
F4	Service vehicle networking systems			F4	Service vehicle networking systems
H	SERVICE LIQUID PETROLEUM (LP) GAS SYSTEMS	H	SERVICE LIQUID PETROLEUM (LP) GAS SYSTEMS		
H1	Maintain LP gas systems	H1	Maintain LP gas systems		
		H2	Install LP gas systems		
		H3	Diagnose LP gas systems		



Recreation Vehicle Service Technician (RVST) Program Outline Review Details

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New Level 1		New Level 2		New Level 3	
		H4	Repair LP gas systems		
I	SERVICE WATER HEATERS	I	SERVICE WATER HEATERS		
I1	Maintain water heaters	I1	Maintain water heaters		
		I2	Install water heaters		
		I3	Diagnose water heaters		
		I4	Repair water heaters		
J	SERVICE FURNACES	J	SERVICE FURNACES		
J1	Maintain furnaces	J1	Maintain furnaces		
		J2	Install furnaces		
		J3	Diagnose furnaces		
		J4	Repair furnaces		
K	SERVICE COOKTOPS AND OVENS	K	SERVICE COOKTOPS AND OVENS		
K1	Maintain cooktops and ovens	K1	Maintain cooktops and ovens		
		K2	Install cooktops and ovens		
		K3	Diagnose cooktops and ovens		
		K4	Repair cooktops and ovens		
L	SERVICE REFRIGERATORS	L	SERVICE REFRIGERATORS		
L1	Maintain refrigerators	L1	Maintain refrigerators		
		L2	Install refrigerators		
		L3	Diagnose refrigerators		
		L4	Repair refrigerators		
M	SERVICE AIR CONDITIONERS (A/C), REFRIGERATION AND HEAT PUMPS	M	SERVICE AIR CONDITIONERS (A/C), REFRIGERATION AND HEAT PUMPS	M	SERVICE AIR CONDITIONERS (A/C), REFRIGERATION AND HEAT PUMPS
M1	Maintain A/C, refrigeration and heat pumps			M1	Maintain A/C, refrigeration and heat pumps
		M2	Install A/C, refrigeration and heat pumps		
				M3	Diagnose A/C, refrigeration and heat pumps
				M4	Repair A/C, refrigeration and heat pumps
		O	SERVICE EXTERIOR COMPONENTS	O	SERVICE EXTERIOR COMPONENTS
		O1	Maintain exterior components		



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New Level 1		New Level 2		New Level 3	
		O2	Install exterior components		
		O3	Diagnose exterior components		
		O4	Repair exterior components	O4	Repair exterior components
		P	SERVICE INTERIOR COMPONENTS	P	SERVICE INTERIOR COMPONENTS
		P1	Maintain interior components		
		P2	Install interior components		
		P3	Diagnose interior components		
		P4	Repair interior components		
				P5	Service consumer products
Q	SERVICE CHASSIS AND MECHANICAL COMPONENTS			Q	SERVICE CHASSIS AND MECHANICAL COMPONENTS
Q1	Maintain chassis and mechanical components			Q1	Maintain chassis and mechanical components
				Q2	Install chassis and mechanical components
Q3	Diagnose chassis and mechanical components			Q3	Diagnose chassis and mechanical components
Q4	Repair chassis and mechanical components			Q4	Repair chassis and mechanical components
				Q5	Service slideout systems
				Q6	Service levelling systems
				Q7	Service folding camping trailers
R	SERVICE TOWING SYSTEMS			R	SERVICE TOWING SYSTEMS
R1	Maintain towing systems				
R2	Install towing systems			R2	Install towing systems
R3	Diagnose towing systems				
R4	Repair towing systems				

Part 2 - Details of Changes to Program Outline: 2008 vs. 2018 Comparison

Overall: The Red Seal Occupational Standard (RSOS) includes technology from vehicles from the year 2000 and later. The Occupational Analysis Charts (OACs) for AST have been combined and aligned to the Red Seal Occupational Standard. Therefore, all of the competencies have been renamed and restructured. The following provides a side by side comparison with notes of major changes.

	Level 1 (2008)		Level 1 (2018)	Notes
A	Safety, Tools and Equipment			
A1	Identify Workshop Safety	A1	Use personal protective equipment (PPE) and safety equipment	
		A2	Maintain safe work environment	
A2	Demonstrate Mathematics			Taught in context across multiple competencies
A3	Demonstrate Hand and Power Tools	B1	Use tools and equipment	
		B2	Use lifting, moving and access equipment	New
		C1	Use technical information	New to Level 1; was in various competencies in 2008 PO
		C3	Use communication techniques	Not in Level in 2008 PO; was probably taught in context
B	Trailer and Towing Systems			
B1	Describe Undercarriage	Q1	Maintain chassis and mechanical components	
		Q3	Diagnose chassis and mechanical components	
		Q4	Repair chassis and mechanical components	
B2	Service Tires and Hubs	Q1	Maintain chassis and mechanical components	
		Q3	Diagnose chassis and mechanical components	



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Level 1 (2008)		Level 1 (2018)		Notes
		Q4	Repair chassis and mechanical components	
B3	Service Electric Trailer Brakes	Q1	Maintain chassis and mechanical components	
		Q3	Diagnose chassis and mechanical components	
		Q4	Repair chassis and mechanical components	
B4	Service Hydraulic Trailer Brakes	Q1	Maintain chassis and mechanical components	
		Q3	Diagnose chassis and mechanical components	
		Q4	Repair chassis and mechanical components	
B5	Service different types of fifth wheel landing gear and trailer tongue jacks.	Q1	Maintain chassis and mechanical components	
		Q4	Repair chassis and mechanical components	
C	Hitch Systems			
C1	Service Hitching Systems	R1	Maintain towing systems	
		R2	Install towing systems	
		R3	Diagnose towing systems	
		R4	Repair towing systems	
C2	Service Sway Control Devices	R1	Maintain towing systems	
		R2	Install towing systems	
		R3	Diagnose towing systems	
		R4	Repair towing systems	
D	Electricity			
D1	Define basic electricity	F1	Apply electrical theory	



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	Level 1 (2008)		Level 1 (2018)	Notes
D2	Interpret Wiring Diagrams and Codes	F2	Service AC electrical systems	
		F3	Service DC electrical systems	
D3	Identify Wiring	F1	Apply electrical theory	
D4	Service 12 Volt Systems	F3	Service DC electrical systems	
		F4	Service vehicle networking	New
E	Tow Vehicle			
E1	Identify Tow Vehicle Preparation	R1	Maintain towing systems	
E2	Describe Towed Vehicle Preparation			In Level 3 R2 Install towing systems in 2018 PO
F	Propane			
F1	Describe the properties of Liquid Propane Gas	H1	Maintain LP gas systems	
F2	Describe Safety Procedures for Handling Liquid Propane Gas	H1	Maintain LP gas systems	
F3	Interpret Specifications and Code Requirements for Transporting and Storing LPG's	H1	Maintain LP gas systems	
G	Appliances			
G1	Describe the Removal and Installation Procedures of Appliances and Accessories	M1	Maintain A/C, refrigeration and heat pumps	
		I1	Maintain water heaters	
		J1	Maintain furnaces	
		K1	Maintain cooktops and ovens	
		L1	Maintain refrigerators	
H	Exterior Accessories			
H1	Describe the installation and repair of exterior accessories			Moved to P5 Service consumer products in Level



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	Level 1 (2008)		Level 1 (2018)	Notes
				3
I	Pre-Delivery Inspection			
I1	Discuss pre-delivery inspections	C2	Performs pre-delivery inspections (PDI)	
J	Plumbing			
J1	Discuss fresh water systems	D1	Service potable water systems	
J2	Service fresh water systems	D1	Service potable water systems	
J3	Describe waste water systems	D2	Service waste water systems	
J4	Service waste water systems	D2	Service waste water systems	
J5	Perform winterizing plumbing systems	D1	Service potable water systems	
		D2	Service waste water systems	



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	Level 2 (2008)		Level 2 (2018)	Notes
A	Exterior Structure and Components			
A1	Describe body construction and siding	O1	Maintain exterior components	
		O2	Install exterior components	
		O3	Diagnose exterior components	
		O4	Repair exterior components	
A2	Service windows, doors and accessories	O1	Maintain exterior components	
		O2	Install exterior components	
		O3	Diagnose exterior components	
		O4	Repair exterior components	
A3	Describe various roof construction	O1	Maintain exterior components	
		O2	Install exterior components	
		O3	Diagnose exterior components	
		O4	Repair exterior components	
A4	Describe cold weather precautions	O1	Maintain exterior components	
A5	Describe various panel construction	O1	Maintain exterior components	
B	Propane			
B1	Identify propane components	H1	Maintain LP gas systems	
B2	Service propane systems	H1	Maintain LP gas systems	
		H2	Install LP gas systems	
		H3	Diagnose LP gas systems	



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	Level 2 (2008)		Level 2 (2018)	Notes
		H4	Repair LP gas systems	
C	Liquid Propane Gas Appliances			
C1	Service furnace and heating systems	J1	Maintain furnaces	
		J2	Install furnaces	
		J3	Diagnose furnaces	
		J4	Repair furnaces	
C2	Service water heaters	I1	Maintain water heaters	
		I2	Install water heaters	
		I3	Diagnose water heaters	
		I4	Repair water heaters	
C3	Service ovens and range tops	K1	Maintain cooktops and ovens	
		K2	Install cooktops and ovens	
		K3	Diagnose cooktops and ovens	
		K4	Repair cooktops and ovens	
C4	Service refrigerators and 12 volt DC coolers	L1	Maintain refrigerators	Note: 12V DC coolers is in Level 3 P5 Service consumer products in the 2018 PO
		L2	Install refrigerators	
		L3	Diagnose refrigerators	
		L4	Repair refrigerators	
C5	Service appliance electrical systems	M2	Install A/C, refrigeration and heat pumps	Note: Service air conditioners is in Level 3 in the 2008 PO
D	Electrical			
D1	Identify ac/dc electrical systems	F2	Service AC electrical systems	



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	Level 2 (2008)		Level 2 (2018)	Notes
		F3	Service DC electrical systems	
D2	Service power convertors	F2	Service AC electrical systems	
E	Interior Components			
E1	Describe cabinet and countertop service.	P1	Maintain interior components	
		P2	Install interior components	
		P3	Diagnose interior components	
		P4	Repair interior components	
E2	Describe methods of servicing upholstery	P1	Maintain interior components	
		P2	Install interior components	
		P3	Diagnose interior components	
		P4	Repair interior components	
E3	Describe methods of servicing floor coverings	P1	Maintain interior components	
		P2	Install interior components	
		P3	Diagnose interior components	
		P4	Repair interior components	

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	Level 3 (2008)		Level 3 (2018)	Notes
A	Fluid Power Systems			
A1	Describe hydraulics	Q1	Maintain chassis and mechanical components	
A2	Service slideout hydraulics	Q2	Install chassis and mechanical components	
		Q3	Diagnose chassis and mechanical components	
		Q4	Repair chassis and mechanical components	
		Q5	Service slideout systems	
A3	Service hydraulic levelling systems	Q6	Service levelling systems	
B	Electrical			
B1	Service generators	F2	Service AC electrical systems	
B2	Describe solar charging systems	F3	Service DC electrical systems	
B3	Service inverters	F2	Service AC electrical systems	
B4	Service electronics			Moved into context of other competencies throughout Level 3 in the 2018 PO
		F4	Service vehicle networking systems	New
C	Appliances			
C1	Service air conditioners	M1	Maintain A/C, refrigeration and heat pumps	
		M3	Diagnose A/C, refrigeration and heat pumps	
		M4	Repair A/C, refrigeration and heat pumps	
C2	Service heat pumps	M1	Maintain A/C, refrigeration and heat pumps	
		M3	Diagnose A/C, refrigeration and heat pumps	
		M4	Repair A/C, refrigeration and heat pumps	



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	Level 3 (2008)		Level 3 (2018)	Notes
C3	Service compressor refrigerators	M1	Maintain A/C, refrigeration and heat pumps	
		M3	Diagnose A/C, refrigeration and heat pumps	
		M4	Repair A/C, refrigeration and heat pumps	
C4	Service miscellaneous appliances	P5	Service consumer products	
D	RV Applications			
D1	Describe motorized undercarriage	Q1	Maintain chassis and mechanical components	
D2	Describe motorized suspension aids	Q1	Maintain chassis and mechanical components	
D3	Describe tent trailers	Q7	Service folding camping trailers	
D4	Describe truck camper	R2	Install towing systems	Moved from Level 3 (2008) to Level 1 (2018)
D5	Describe interior accessories	P5	Service consumer products	
E	Administration			
E1	Describe work orders	C1	Use technical information	
E2	Describe customer relations	C3	Use communication techniques	
E3	Describe computers	C1	Use technical information	
E4	Describe estimating	C4	Perform estimation procedures	
F	Fiberglass & Plastics			
F1	Repair body panels	O4	Repair exterior component	

Part 3 – New Achievement Criteria

Achievement Criteria describe the assessment of a practical task. Not all competencies are assigned an achievement criteria. Some competencies are covered theoretically in technical training and are learned hands on in work-based training. Other competencies may be taught hands on in technical training, but are not assigned an achievement criteria for various reasons. All achievement criteria are designed by industry and instructor subject matter experts. The achievement criteria are designed to allow flexibility in delivery so that instructors can adapt the assessment to suit their learners.

The 2008 Program Outline didn't include achievement criteria, and assessment of practical tasks was at the discretion of the instructor and his/her institution. They have been added to the 2018 Program Outline as part of ITA's efforts to enhance consistency of program delivery. The following list is a summary of the new achievement criteria. Please refer to the 2018 Program Outline for full details.

		Competency	Task
Level 1	B1	Use tools and equipment	The learner will use tools to fabricate a U-tube manometer.
	C2	Perform pre-delivery inspections (PDI)	The learner will perform PDI.
	H1	Maintain LP gas systems	The learner will use hand tools to fabricate a 70% valve.
	Q4	Repair chassis and mechanical components	The learner will repair chassis and mechanical components.
	R2	Install towing systems	The learner will build a towable light tester, including <ul style="list-style-type: none"> • 7-pin • 4-pin Note: This task is optional.
Level 2	F2	Service AC electrical systems	The learner will wire a 15-amp grounding plug to a GFCI mounted in an electrical box.
	H1	Maintain LP gas systems	The learner will perform an LP gas system service.
	H2	Install LP gas systems	The learner will perform black pipe cutting and threading.
	O2	Install exterior components	The learner will build walls: <ul style="list-style-type: none"> • Stick and tin wall • Laminated



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	P2	Install interior components	The learner will build a cabinet with top.
Level 3	C4	Perform estimation procedures	The learner will complete a repair estimate using an industry recognized Flat Rate manual.
	F2	Service AC electrical systems	The learner will perform routine maintenance and confirm proper generator function and output.
	M1	Maintain A/C, refrigeration and heat pumps	The learner will confirm A/C performance.
	O4	Repair exterior component	1. The learner will perform repairs to composite panels. 2. The learner will perform plastic welding.