

RV Technical Institute Curriculum Outline

Level 1 Technician



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RV Technical Institute Curriculum Outline

Level 1 Technician

DACUM Content		Technician Learning Outcomes and Lesson Objectives		Labs and Activities	
Propane Course					
Module 1 (PROP101)					
1	Comply with propane safety procedures	1	Demonstrate knowledge of propane and describe properties of propane and butane		Assignment 1: Basic RV Propane System
2	Demonstate general knowledge of propane	2	Identify safety practices related to handling and transporting propane		Assignment 2: Basic Facts about LP-Gas
6	Inspect/maintain/replace/add propane piping system	3	Demonstrate knowledge of tools and gauges used around propane		In Class Activity 1: Personal Protective Equipment (PPE)
7	Troubleshoot propane system faults	4	Compliane with national, state and local codes related to propane		In Class Activity 2: Manometers
Module 2 (PROP102)					
3	Knowledge and Identification of propane containers	1	Describe components and properties of both ASME tanks and DOT/TC cylinders and their appurtenances		Assignment 1; DOT/TC Cylinder Appurtenances
5	Inspect/maintain/replace propane containers, appurtenances and fittings				Assignment 2: ASME Tank Appurtenances
					Lab 1: Inspect Containers
					Lab 2: Purge and Fill a New DOT/TC cylinder
Module 3 (PROP103)					
4	Perform propane system tests	1	Perform propane tests		Lab 1: Constructing a Propane Test Device Apparatus
66	Perform pre-delivery inspection--Propane	2	Complete documentation of porane sytsem tests		In Class Activity 1: RV Propane System Testing
					Handout 1: Sample Propane System Testing Checklist
					Lab 2: Perform Propane Tests

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Electrical Course				
Module 1 (ELEC101)				
8	Testing Devices Usage and Testing	1	Define electricity	Lab 1: Build a simple DC circuit
9	Identify AC and DC systems	2	Measure electrical quantitiees	Lab 2: Perform PDI on DC Electrical System
10	Define common terms and components	3	Define electricity safety	
11	Identify types of wiring and connections	4	Demonstrate basic knoweldge of AC and DC Systems in RVs	
12	Types of circuits			
13	Demonstrate knowledge of basic DC electricity and safety			
17	Demonstrate knowledge of basic AC theory and safety			
Module 2 (ELEC102)				
66	Perform pre-delivery inspection--Electrical System	1	Perform electrical safety tests	Lab 1: Perform AC Electrical System Tests for PDI
		2	Perform PDI on RV electrical system	Lab 2: Perform PDI on Fire and Life Safety Devices

Water Systems (Plumbing) Course

<u>Module 1 (WATR101)</u>				
21	Define common terms and components (add plumbing diagram)	1	Demonstrate knowledge of the RV fresh water distribution system	Lab 1: Build a City Water Test Kit
66	Perform pre-delivery inspection--Water System (Supply)	2	Perform PDI on Fresh Water System	Assignment 1: Water Distribution System
		3	Sanitize, winterize, and dewinterize the fresh water system	Lab 2: Perform PDI on Fresh Water Systems
				Lab 3: De-winterize and winterize Fresh Water system
<u>Module 2 (WATR102)</u>				
21	Define common terms and components (add plumbing diagram)	1	Demonstrate knowledge of the RV waste water distribution system on RVs	Assignment 1: Drainage System
66	Perform pre-delivery inspection--Water System (Waste)	2	Perform PDI on waste Water System	Lab 1: Perform PDI on Waste Water Systems
		3	Winterize waste water system on RVs	

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Appliance Course

Module 1 (APPL101)				
66	Perform pre-delivery inspection--Appliances	1	Perform PDI on RV air conditioners	Lab 1: Perform PDI on an air conditioner system
		2	Perform PDI on RV refrigerators	Lab 2: Perform PDI a refrigerator
		3	Perform PDI on RV furnaces	Lab 3: Perform PDI on a furnace
		4	Peform PDI on RV water heaters	Lab 4: Peform PDI on a water heater
		5	Perform PDI on RV range tops/ovens	Lab 5: Perform PDI on a range top and oven
		6	Perform PDI on RV microwaves/convections	Lab 6: Perform PDI on a microwave/convection
		7	Perform PDI on RV hydronic heating systems	Lab 7: Perform PDI on a RV hydronic heating system

Body Course

Module 1 (BODY101)				
68	Identify RV Construction types and methods	1	Perform PDI on interior components	Lab 1: Perform PDI on Interio and Exterior Components
74	Inspect/install/maintain safety equipment	2	Perform PDI on exterior	
75	Inspect/maintain/repair/modify cabinetry	3	Perform PDI on folding camping trailers	
65	Demonstrate knowledge of accessory installation considerations (interior and exterior)	4	Perform PDI on truck campers	
		5	Perform PDI on slide outs	
		6	Demonstrate knowledge of accessory installation consideration	

Generator Course

Module 1 (GENR101)				
55	Perform PDI on generators	1	Demonstrate knowledge of RV generators	Lab 1: Perform PDI on generator
56	Inspect/test remote start and auto generator start panels (AGS)	2	Perform PDI on RV generators	

Chassis Course

Module 1 (CHAS101)				
66	Perform pre-delivery inspection--Chassis	1	Perform PDI on chassis dash components and motorized RVs	Lab 1: Perform PDI on Chassis dash components and motorized RVs including towables and slide-outs
67	Demonstrate knowledge of weight related terms and definitions	2	Perform PDI on tires and wheels	
		3	Perform PDI on towables	
		4	Perform PDI on leveling and slide-outs	
		5	Identify RV weight issues	

7 courses
11 modules
29 Tasks/Competencies

39 Learning Outcomes

32 Labs and Activities

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Level 2 Technician



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DACUM Content		Technician Learning Outcomes and Lesson Objectives		Labs and Activities
Propane Course				
Module 4 (PROP201)				
2	Demonstate general knowledge of propane	1	Demonstrate knowledge of basic propane safety and theory (review from Modules 1,2,3)	Lab 1: Torch off a container (TBD by technician)
5	Inspect/maintain/replace propane containers, appurtenances and fittings	2	Describe advanced propane theory and knowledge	Lab 2: Transfer Propane from DOT cylinder to DOT cylinder (20 minutes per technician)
7	Troubleshoot propane system faults	3	Describe principles of propane flow and need for regulators	Lab 3: Replace appurtenance on DOT cylinders and/or ASME tanks (TBD by technician)
		4	Regulate propane pressure	Activity 1: DOT/TC Cylinder Appurtenances
		5	Diagnose and suspect regulator pressure problems	Activity 2: ASME Tank Appurtenances
		6	Troubleshoot advanced regulator issues	
Module 5 (PROP202)				
6	Inspect/maintain/replace/add propane piping system	1	Demonstrate knowledge of basic propane containers	Lab 1: Replace 2nd Stage Regulator on travel trailer (20 minutes per technician)
7	Troubleshoot propane system faults	2	Torching off and transfer propane	Lab 2: Replace Regulator on motorized vehicle (20 minutes per technician)
		3	Diagnose appurtenance failures	Activity 1: Basic RV Propane System
		4	Test containers after appurtenance replacement	Activity 2: Basic Facts about LP-Gas
				Activity 3-Impact of Boiling Point and Vaporization on Propane
				Activity 4: Single Stage Regulator Components
Module 6 (PROP203)				
7	Troubleshoot propane system faults	1	Describe propane distribution system (review from Level 1)	Lab 1: Copper Tubing cutting, joining, and flaring (30 minutes per technician)
		2	Identify components of a propane distribution system	
		3	Size propane distribution system	
		4	Route and secure propane distribution system piping	
		5	Troubleshoot propane distribution problems	
		6	Cutting, Reaming and Flaring copper tubing	

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Electrical Course				
Module 3 (ELEC201)				
9	Identify AC and DC systems	1	Select appropriate DC overcurrent protection devices based on conductor size	Lab 1--Create a DC Circuit that includes correct wire size and overcurrent protection
13	Demonstrate knowledge of basic DC electricity and safety	2	Interpret various types electrical drawings	Lab 2--Verify Ohm's and Watt's Law Through Circuit
14	Perform DC voltage system inspection and tests	3	Prove Ohm's and Watt's Law	Lab 3--Diagnose DC power sources
15	Service DC power sources	4	Inspect and charge batteries	Lab 4--Test DC Components
16	Service DC wiring/distribution system	5	Troubleshoot and replace converters	Activity 1: Determine DC Wire Size and Overcurrent Protection Size
13	Demonstrate knowledge of basic DC electricity and safety	6	Troubleshoot and replace inverters/chargers	Activity 2: Identify DC Wiring Symbols
		7	Troubleshoot and diagnose alternator/charger system	Activity 3: Testing Heating Element
		8	Troubleshoot, diagnose and install solar panels	
		9	Troubleshoot DC system components	
Module 4 (ELEC202)				
13	Demonstrate knowledge of basic DC electricity and safety	1	Review electrical PDI test data	Lab 1--Create a DC Circuit
17	Demonstrate knowledge of basic AC theory and safety	2	Select appropriate AC overcurrent protection devices based on conductor size	Lab 2--Verify Ohm's and Watt's Law Through Circuit Measurements
18	Perform AC voltage system inspection and tests	3	Interpret various types electrical drawings	Lab 3: Diagnose wiring connection problems
19	Service AC power sources	4	Prove Ohm's and Watt's Law	Lab 4: Diagnose circuit breaker problems
20	Service AC wiring/distribution system	5	Perform AC Voltage System inspection	Lab 5: Diagnose Self-contained, standard and GFCI receptacle problems
		6	Replace distribution panel board	Lab 6: Diagnose polarity problems
		7	Troubleshoot 10 common AC electrical issues	Lab 7: Diagnose transfer switch problems
		8	Troubleshoot wire size and voltage drop problem	Activity 4: Determine AC Amps, Wire Size, and Overcurrent Protection Size
		9	Troubleshoot problems using a voltmeter	Activity 5: Identify AC Wiring Symbols
		10	Troubleshoot circuit breaker problem	Activity 6: Testing Heating Element
		11	Troubleshoot GFCI problem	
		12	Troubleshoot hot skin problem	
		13	Troubleshoot generator problem	
		14	Troubleshoot power cord problem	
		15	Troubleshoot inverter problem	
		16	Inspect and replace receptacles and switches	
		17	Troubleshoot basic energy management systems	
		18	Add an electrical device	

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Module 5 (ELEC203)				
79	Troubleshoot and Repair Control Area Networking (CAN) Systems	1	Identify basic functions and components of logic control systems	No Labs or Activities
80	Troubleshooting and repair multiplexing systems	2	Identify common vendors of logic control systems	
81	Demonstrate knowledge of logic systems and components	3	Troubleshoot communication connection problems	
		4	Troubleshoot function problems controlled by logic control systems	
		5	Monitor panel functions controlled by logic system controls	
		6	Monitor lighting functions controlled by logic system controls	
		7	Program logic control systems	

Water Systems (Plumbing) Course

Module 3 (WATR201)				
22	Interpret plumbing diagrams	1	Identify the components of water systems on RV (review)	Lab 1: Create a piping assembly for fresh water distribution system, test for leaks and make a piping repair
23	Inspect/Diagnose/repair fresh water storage tanks	2	Inspect/diagnose/repair fresh water storage tanks	Lab 2: Troubleshoot and replace a water pump
24	Inspect/Diagnose/repair fresh water distribution systems	3	Inspect/diagnose/repair fresh water distribution system	Lab 3: Create a piping assembly to replicate a waste water drainage system, test for leaks and make a piping repair
25	Inspect/Diagnose/repair/replace fixtures/devices		Inspect/diagnose/repair/replace fixtures and devices	Lab 4: Install a full-way waste water valve in Lab 3 assembly
26	Inspect/Diagnose/repair/replace waste holding tanks		Inspect/diagnose/repair/replace waste holding tanks	Activity 1: Label Water System
27	Inspect/Diagnose/repair/replace drainage piping system		Inspect/diagnose/repair/replace drainage piping system	Activity 2: Label Drainage System
Module 2 (WATR102)				
21	Define common terms and components (add plumbing diagram)	1	Demonstrate knowledge of the RV waste water distribution system on RVs	Assignment 1: Drainage System
66	Perform pre-delivery inspection--Water System (Waste)	2	Perform PDI on waste Water System	Lab 1: Perform PDI on Waste Water System
		3	Winterize waste water system on RVs	

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Appliance Course				
Module 2 (APPL201)				
39	Repair/replace/install air conditioning/heat pump units	1	Describe operation and components and their functions of RV Air Conditioners	Activity 1: Visually inspect air conditioner control board
40	Diagnose air conditioning faults	2	Evaluate RV air conditioning mechanical and electrical system components and accessories	Activity 2: Measure start and stop windings on air conditioner compressor
41	Identify types of AC Units	3	Demonstrate practical knowledge of basic electricity and of the electrical components of RV Air Conditioners	Activity 3: Measure continuity on air conditioner PTCR
48	Inspect/repair ducting and return air	4	Diagnose and repair 12 VDC remote control circuits	Activity 4: Verify discharge condition and microfarads on air conditioner capacitor
		5	Diagnose improper or insufficient airflow issues with RV Air Conditioners	Activity 5: Measure motor windings on air conditioner fan motor
		6	Install RV Air Conditioning unit	Activity 6: Verify resistance on air conditioner reversing valve
		7	Perform routine maintenance on RV air condition units	Lab 1: Evaluate AC Components--compressor, fan motor, capacitor and reversing valve
		8	Troubleshoot and repair RV air conditioner issues	Lab 2: Measure line voltage to an Air Conditioner in an RV
				Lab 3: Measure Delta-T
				Lab 4: Diagnose an Air Conditioner with at least one fault
Module 3 (APPL202)				
42	Repair/replace/install water heaters (Pilot)	1	Repair/Replace/Install Manual Pilot Ignition/Combination Water Heaters	Activity 7: Wire a Water Heater Using a Schematic
43	Repair/replace/install water heaters (DSI-Direct Spark Ignition and Motor-Aid)	2	Repair/Replace/Install Direct Spark Ignition Water Heaters and Motor Aid	Lab 5: Measure propane pressure at water heater
44	Repair/replace/install water heaters (Electric)	3	Repair/Replace/Install Residential Style Electric Only Water Heaters	Lab 6: Evaluate pilot-controlled water heater component
45	Repair/replace/install water heaters (Hydronic)	4	Repair/Replace/Install On-Demand Water Heaters	Lab 7: Evaluate and solve DSI controlled water heater issue
46	Repair/replace/install water heaters (Tankless)	5	Repair/Replace/Install Hydronic Water Heaters	Lab 8: Evaluate and repair electrically-controlled water heater issues
		6	Perform maintenance and general repairs on water heaters	Lab 9: Evaluate On-Demand water heater components
		7	Review Industry Codes and Standards related to water heaters	

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Module 4 (APPL203)				
48	Inspect/repair ducting and return air	1	Describe the types and vendors of various RV heating systems	Activity 8: Evaluate furnace mechanical (bi-metal) thermostats
47	Diagnose/repair/replace furnaces (DSI)	2	Describe operation of forced air, sealed combustion heating system	Activity 9: Evaluate furnace separate time delay relay
49	Diagnose/repair/replace furnaces (Hydronic)	3	Identify furnace components and their functions related to specific types of RV heating systems	Activity 10: Evaluate furnace blower motor
		4	Install and maintain forced air furnaces	Activity 11: Evaluate furnace blower wheel (squirrel cage)
		5	Troubleshoot forced air, sealed combustion RV furnace systems	Activity 12: Evaluate furnace sail switches and limit switches
		6	Describe overview of Hydronic Heating Systems	Activity 13: Evaluate furnace gas valves
				Activity 14: Evaluate furnace burner assembly
				Activity 15: Evaluate furnace igniter assembly
				Activity 16: Evaluate furnace On/Off switch
				Lab 10: Evaluate Furnace Components—separate time delay relay, gas valves, and burner assembly
				Lab 11: Disassemble and reassemble an RV furnace
				Lab 12: Diagnose a furnace with at least one fault
Module 5 (APPL204)				
50	Install/repair/replace absorption refrigerators (Manual selection)	1	Identify types and vendors of RV refrigerators	Demonstration 1: Tests Operation of the Fan through the thermostat
51	Install/repair/replace absorption refrigerators (Automatic selection)	2	Demonstrate principles of absorption refrigeration and components of RV absorption refrigerators	Activity 17: Diagnose a refrigerator thermistor
52	Install/repair/replace compressor driven refrigerators	3	Install/repair/replace cooling unit on absorption refrigerator	Activity 18: Diagnose a refrigerator's heating element
		4	Explain venting requirements and manufacturer's specifications in RV absorption refrigerators	Activity 19: Evaluate a refrigerator's gas valve coils
		5	Explain RV refrigerator control components on manual and automatic refrigerators	Demonstration 2: Refresh/restore door gasket (Dometic)
		6	Maintain and troubleshoot absorption refrigerators	Lab 13: Replace a cooling unit on an absorption refrigerator
		7	Troubleshoot and replace ice makers	Lab 14: Diagnose a DC electrical issue on an absorption refrigerator
		8	Troubleshoot and repair compressor-driven refrigerators in RV's	Lab 15: Diagnose an AC electrical issue to an absorption refrigerator
				Lab 16: Diagnose ventilation issue on an absorption refrigerator
				Lab 17: Diagnose a propane issue to an absorption refrigerator
Module 6 (APPL205)				

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DACUM Content		Technician Learning Outcomes and Lesson Objectives		Labs and Activities	
53	Install/repair/replace ranges and cooktops	1	Explain range components and functions		No labs
		2	Explain oven components and functions		
		3	Replace range and cooktop		
		4	Test and replace mercury-free system		
		5	Adjust Airflow and Air/Fuel Mixtures		
		6	Install cooktops and ranges		
		7	Troubleshooting RV ranges and cooktops		
		8	Comply with ranges and cooktop codes and standards (review)		
Module 7 (APPL206)					
45	Repair/replace/install water heaters (Hydronic)		Describe theory and operational principles of hydronic heating systems		Activity 20: Perform Routine Maintenance on a Hydronic Heating System
49	Diagnose/repair/replace furnaces (Hydronic)		Describe hydronic components		Lab 18: Perform Hot Water Testing
			Perform troubleshooting of hydronic heating systems		
			Perform annual and routine maintenance on hydronic systems		

Body Course

Module 2 (BODY201)				
69	Inspect/maintain/repair roofs, sidewalls, and underbelly	1	Demonstrate knowledge of RV coach construction	Activity 1--1' x 2' roof simulated; cut a hole in roof; clean area
71	Install/inspect/replace awnings	2	Describe common RV construction issues	Activity 2-Roof Repair
72	Demonstrate knowledge of basic fiberglass/plastic/metal body repairs	3	Repair RV roofs	Lab 1: Simulate a sheet metal siding replacement with corner molding and one appurtenance
73	Demonstrate knowledge of basic fiberglass/plastic/metal body refinishing	4	Perform floor repairs	Lab 2: Simulate a roof replacement and repair including installing a vent
		5	Demonstrate knowledge of RV Paint and coatings	
		6	Demonstrate knowledge of RV sealants and roof coatings	
		7	Fasteners and adhesives	

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<u>Module 3 (BODY202)</u>				
70	Inspect/maintain/repair exterior openings, trims and seals (windows, exterior lamps, mirrors, etc.)	1	Install and repair exterior body panels and trim	Activity 1: Repair or replace exterior corner mold
		2	Install and repair RV doors, windows and vents	Activity 2: Install a window kit
		3	Install and repair exterior accessories and lighting	Activity 3 Repair or replace exterior corner mold
				Activity 4 Install a Window Kit
				Lab 3: Remove and reinstall window and install a window shade with valance
				Lab 4: Remove and install demonstration awning
				Lab 5: Remove and reinstall a porch light assembly on exterior of RV
<u>Module 4 (BODY203)</u>				
75	Inspect/maintain/repair/modify cabinetry		Repair/maintain/repair/replace interior walls (from draft textbook)	Lab 6: Replace interior trim (1" wide batten strip and seam tape)
76	Clean/repair/replace soft goods (upholstery and curtains)		Floor covering, repair, replacement, maintenance	Lab 7: Remove and install new pleated window shade with top and side valance
77	Repair/replace/modify/clean interior floor and coverings		Install/repair interior roof and ceiling assemblies	
78	Repair/replace/install interior surfaces		Install and repair RV cabinet and divider walls	
			Install and repair RV seating and bedding	
			Install and repair RV interior fabrics	
			Install/repair RV safety equipment	
<u>Module 5 (BODY204)</u>				
	Repair Folding Trailers and Hybrids	1	Repair folding trailer	No Labs or Activities
		2	Repair pop-up trailer slide out and front trunk	
		3	Repair pop-up/folding trailer tent/canvas	
		4	Repair telescoping lift arm system	
		5	Perform minor repair and waterproof fabric	
		6	Install and reinforce rooftop air conditioner	

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DACUM Content		Technician Learning Outcomes and Lesson Objectives		Labs and Activities
Generator Course				
Module 2 (GENR201)				
57	Maintain external engine components	1	Describe vendors and types of generator used in RVs	Activity 1: Using a control simulator, diagnose an engine problem
58	Inspect/diagnose/maintain/repair generator section and control system	2	Verify installation of generator	Activity 2: Using a control simulator, diagnose a generator problem
		3	Make electrical connections to generators	Activity 3: Using a control simulator, diagnose a control problem
		4	Explain and service engine components	Lab 1: Perform hot air recirculation test (ambient air vs inlet temp) on cooling system
		5	Explain, test and adjust generator AC power generating systems	Lab 2: Diagnose status of specific components--rotor and stator
		6	Explain, test, and adjust generator control systems (inverter or variable-speed type)	Lab 3: Disassemble and reassemble components on a gen set
		7	Inspect and perform periodic maintenance on generators	
Module 3 (GENR202)				
59	Diagnose/Replace/Install new generator set	1	Describe generator troubleshooting categories and methods	Lab 4
60	Diagnose generator faults	2	Perform proactive initial troubleshooting to diagnose common problems	
		3	Use troubleshooting chart to diagnose engine problems	
		4	Use troubleshooting chart to diagnose generator problems	
		5	Use troubleshooting chart to diagnose controls faults and problems	

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Chassis Course				
Module 2 (CHAS201)				
	Safety and Lifting a Trailer	1	General safety and how to safely lift a trailer	Activity 1: How to Lift a Trailer
Module 3 (CHAS202)				
28	Inspect/maintain/repair the electrical braking system		Demonstrate knowledge of electrical brake theory	Lab 1: Initiate faults in brake assembly
29	Install/Inspect/replace brake controllers		Identify components of electric brakes and trailer brake controllers	Activity 1: Disassemble, Inspect, and Reassemble and adjust brake shoes
30	Inspect/maintain/repair hydraulic surge brake systems		Synchronize and adjust electric trailer brakes	Demonstrate 2: Timed and Proportional Brake Controller and Error Codes on Controller and Setting Parameters
			Inspect electric brakes	Lab 2: Initiate faults in brake assembly
			Clean and inspect electric trailer brakes	
			Troubleshooting and repairing electric trailer brakes	
			Remove and replace electric trailer brake system components	
			Install and wire electric brake controller	
Module 4 (CHAS203)				
32	Inspect/maintain/repair air suspension system (RV mfg. aftermarket)	1	Identify specifications and components of an RV axle	Lab 1: Install, lubricate and repack inner bearings and races on a hub assembly of a trailer
33	Inspect/maintain/repair mechanical steel suspension systems (RV mfg. aftermarket)	2	Measure an axle, wheels for tow-in alignment, frame deflection and hangers	<i>Demonstration with Hands on 1: Assemble the leaf spring components (over-slung and underslung) (install on frame or miniframe)</i>
34	Inspect/maintain/repair mechanical rubber suspension systems (RV mfg. aftermarket)	3	Assess axle condition based on tire wear	Lab 2: Assemble the leaf spring components under-slung)
35	Inspect/replace-trailer suspension systems (rubber torsion axle)	4	Perform inspection and maintenance on axles and hubs	
67	Demonstrate knowledge of weight related terms and definitions	5	Inspect and replace towable suspension system	
		6	Correct over slung and underslung condition	
		7	Assess suspension travel, movement, and trailer load equalization	
		8	Other topics (need content)	

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<u>Module 5 (CHAS204)</u>				
32	Inspect/maintain/repair air suspension system (RV mfg. aftermarket)	1	Discuss type of suspension systems on trailers	Demonstration 1: Check for internal by-pass and leaks
33	Inspect/maintain/repair mechanical steel suspension systems (RV mfg. aftermarket)	2	Describe suspension systems on motorhomes	No labs
34	Inspect/maintain/repair mechanical rubber suspension systems (RV mfg. aftermarket)	3	Describe purpose and operation of shock absorbers on all suspension systems	
		4	Describe suspension system accessories	
		5	Troubleshoot and replace suspension system components	
		6	Inspect and diagnose problems with air suspension system	
		7	Perform general inspection of mechanical suspension vehicles (motorized)	
<u>Module 6 (CHAS205)</u>				
37	Maintain/change wheels and tires	1	Demonstrate knowledge of tires and wheels	<i>Demonstration 1: Install and calibrate Tire Pressure Monitoring Systems (TPMS)</i>
		2	Inspect and diagnose tire rim condition	No labs
		3	Maintain appropriate tire pressure and tire rotation	
		4	Interpret tire wear patterns	
		5	Install tire pressure monitoring systems (TPMS)	
<u>Module 7 (CHAS206)</u>				
61	Inspect/maintain/repair hydraulic systems	1	Demonstrate knowledge of hydraulic theory, safety and components	<i>Demonstration 1: Check for Internal by-pass and leaks</i>
36	Inspect/maintain/repair tongue, 5th wheel, truck camper, leveling and stabilizer jacks	2	Maintain RV stabilizer equipment and systems	Lab 1: Purge hydraulic system
		3	Install and Maintain Electronic Leveling System	Lab 2: Troubleshoot operation of leveling system (hydraulic) per manufacturer's specification
<u>Module 8 (CHAS207)</u>				
31	Inspect/install/maintain/repair mechanical towing components (including dingy towing)	1	Demonstrate knowledge of RV towing systems	No labs
37	Maintain/change wheels and tires	2	Describe common wiring systems and wire a tow vehicle	
		3	Install RV weight carrying and weight distributing hitches	
		4	Install and mount RV fifth-wheel hitches	
		5	Install RV gooseneck hitches	
		6	Install and maintain air ride hitches and pin boxes	
		7	Adjust and troubleshoot hitches	

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Module 9 (CHAS208)				
31	Inspect/install/maintain/repair mechanical towing components (including dingy towing)	1	Demonstrate basic equipment and safety requirements for dinghy towing	No Labs
37	Maintain/change wheels and tires	2	Describe common towing products for dinghy towing	
		3	Install, adjust and troubleshoot dinghy hitches	
		4	Properly wire for dinghy towing	
		5	Install dinghy towing auxiliary braking system	
Module 10 (CHAS209)				
62	Inspect/diagnose/maintain/repair slide out room hydraulic assembly		Demonstrate knowledge of slide out systems used in RV's	Lab 1: Perform adjustments on thru-frame slide out
63	Repair/adjust slide out room hydraulic, electrical and manual drive mechanisms		Describe technician best practices for adjusting slide on electric and hydraulic systems	
64	Install/replace/repair/adjust slide out room accessory components		Describe operation and components of electric and hydraulic slide out systems	
			Perform common adjustments on slide out rooms	
			Perform maintenance on electrical and hydraulic slide out	

7 courses

28 modules

82 Tasks/Competencies

184 Learning Outcomes

111 Labs and Activities