LANCASTER COUNTY
CAREER & TECHNOLOGY
CENTER

Power Sport Technology

Available Certifications:

Meter Certification
OSHA Certification
Outdoor Power Equipment Technician Cert

Complete Task List:

Task Number	Description	Hours	Level
**State Approved Program of Study*			
100	Workplace Safety		
101	Interpret Safety Data Sheets (SDS).		
102	Lift and move heavy objects.		
103	Handle and store flammable materials and toxic substances.		
104	Follow Occupational Safety and Health Administration (OSHA) rules and regulations.		
105	Identify job-site hazards.		
106	Wear personal protective equipment, e.g., safety goggles, hearing protection and respiratory protection.		
107	Select appropriate fire extinguisher according to fire type.		
108	Follow safety rules for Exposure Control Procedures (ECP) for blood borne pathogens.		
109	Use safe work habits while working with electrical systems.		
200	Basic Electrical Principles and Circuit Testing		
201	RESERVED		
202	Interpret electrical circuit and wiring diagrams.		
203	Use a meter to measure resistance, continuity, amperage, and voltage.		
204	Solve problems using Ohm s law.		
205	Follow procedures for battery disposal.		
206	Construct and test series and parallel circuits.		
207	Identify electrical terminals and connectors.		
208	Perform a diode test.		
209	RESERVED		
210	RESERVED		
211	RESERVED		
212	Inspect, test, and replace fusible links, fuses and circuit breakers.		
213	Identify American Wire Gauge (AWG) wiring codes.		
214	RESERVED		
215	Solder a current carrying wire.		
300	Cooling Systems		
301	Identify the methods of heat transfer and the purpose of a cooling system.		
302	Perform a cooling system flush on a liquid cooled engine.		
303	Remove, service and replace a water pump, hoses, and thermostat.		
304	Identify the components of a liquid cooled engine.		
305	Pressure-test a liquid-cooled cooling system.		

Task Number	Description	Hours	Level
306	Determine causes of engine overheating.		
307	Inspect the cooling system for debris, leaks, and damage.		
400	Fuel Systems		
401	Identify the types of fuel systems and explain the function of all components.		
402	RESERVED		
403	Identify types of carburetor designs.		
404	RESERVED		
405	Describe the operation of the idle fuel circuit and the main fuel circuit.		
406	Explain the venturi principle and variable venturi carburetors.		
407	Identify and service fuel enrichment devices.		
408	RESERVED		
409	RESERVED		
410	Identify the function of electronic fuel injection (EFI) components.		
411	Identify the function and components of gaseous fuel systems.		
412	Identify types and grades of fuels used in internal combustion engines		
413	Describe how fuel additives protect fuel systems.		
414	Remove, service, and replace carburetor.		
415	RESERVED		
416	Remove, service, and replace a fuel system s air filter and air intake assembly.		
417	Remove, service, and replace a fuel pump.		
418	Install and adjust throttle and choke linkage.		
419	Adjust carburetor mixture screws per manufacturer specifications.		
420	Adjust carburetor float level and metering levers.		
421	Remove, service and replace a fuel tank, filters, caps, and lines.		
422	RESERVED		
423	Check the fuel pump pressure and flow rate.		
424	Pressure test the carburetor.		
425	Check the engine for proper starting, idle and acceleration.		
426	RESERVED		
427	RESERVED		
428	Remove and replace an intake manifold.		
429	Remove, service and replace electronic fuel injection (EFI) fuel system components.		
430	Diagnose electronic fuel injection (EFI) system failures.		
431	Test and replace an anti-backfire/fuel shutoff solenoid.		
500	Exhaust Systems		
501	Identify problems that can occur from operating engines with a removed or damaged exhaust system.		
502	RESERVED		
503	Remove, service, and replace a spark arrestor screen.		
504	Identify exhaust system components and their functions.		

Task Number	Description	Hours	Level
505	Explain the function of a single stage catalyst (catalytic converters).		
506	RESERVED		
507	Remove, service, and replace an exhaust system.		
508	RESERVED		
600	Measuring and Trade-Related Mathematics		
601	Read a standard and a metric ruler.		
602	Read and use a standard and metric micrometer.		
603	Read and use a standard and metric dial indicator.		
604	Use a standard and metric torque wrench.		
605	Use a standard/metric dial caliper.		
606	Calculate displacement and area.		
607	Calculate work, power, torque, and horsepower.		
700	Hand and Power Tools		
701	Use common hand tools.		
702	Use manufacturer⁄s specialty tools.		
703	Use electric, air, and hydraulic tools.		
800	Fasteners		
801	Identify, select, and install various fasteners according to specifications.		
802	Replace damaged internal threads using a thread repair system.		
803	Repair damaged threads, using a tap and die, chaser, or thread file.		
804	Use a thread extraction tool to remove a broken fastener.		
805	Torque fasteners according to manufacturer specifications.		
900	Welding, Heating, and Cutting		
901	Follow safety rules for welding and cutting equipment		
902	RESERVED		
903	Adjust welding amperage and perform various welding repairs.		
904	RESERVED		
905	Light and adjust the flame on an oxy-acetylene torch.		
906	Heat and cut with an oxy-acetylene torch.		
907	Set up and adjust gauges on welding, heating, and cutting equipment.		
1000	2-Stroke Cycle Engine		
1001	Diagonse performance problems in a 2-stroke cycle gasoline engine.		
1002	RESERVED		
1003	Perform top end compression test.		
1004	Perform crankcase vacuum/pressure test.		
1005	Identify the component parts in a short block of a 2-stroke cycle engine and explain their purposes.		
1006	Pressure test a fuel system on a 2-stroke cycle engine.		
1007	Explain 2-stroke cycle engine operating theory.		
1008	RESERVED		
1009	RESERVED		

Task Number	Description	Hours	Level
1010	Identify the types of 2-stroke cycle engine valves.		
1011	Inspect and service 2-stroke cycle engine exhaust systems.		
1012	RESERVED		
1100	4-Stroke Cycle Engine		
1101	Disassemble, clean, and identify engine components.		
1102	RESERVED		
1103	Explain 4-stroke cycle engine operating theory.		
1104	RESERVED		
1105	Inspect shaft(s) bearings and gears.		
1106	RESERVED		
1107	Measure crankshaft end play, run-out and determine necessary repairs.		
1108	Inspect and service valve train components.		
1109	RESERVED		
1110	RESERVED		
1111	RESERVED		
1112	Install valve springs using a valve spring compressor.		
1113	Adjust valve clearances/lash.		
1114	Measure cylinder bore for oversize, out of round, taper, and piston to cylinder wall clearance.		
1115	Deglaze/hone a cylinder.		
1116	Perform a cylinder balance test.		
1117	Perform a cylinder compression test.		
1118	Perform a cylinder leak-down test.		
1119	Install a crankshaft and bearings.		
1120	Install a piston using a ring compressor.		
1121	Check ring end gap and side clearance.		
1122	Verify camshaft timing.		
1123	Install all gaskets and seals according to specifications.		
1124	RESERVED		
1125	RESERVED		
1126	RESERVED		
1200	Engine Failure Analysis		
1201	List engine failure categories.		
1202	Identify insufficient lubrication failures.		
1203	Identify fuel system failures.		
1204	Identify cooling system failures.		
1205	Identify detonation and pre-ignition failures.		
1206	RESERVED		
1207	Identify the effects of over speeding.		
1208	Identify the signature breakage of a connecting rod.		
1209	Identify exhaust port piston scoring and large end bearings failure on a 2-stroke cycle engine.		

Task Number	Description	Hours	Level
1210	Identify the effects of excessing vibration on engine block and mounting base.		
1211	RESERVED		
1300	Starting Systems		
1301	Disassemble, identify, and describe the parts of a recoil starting system.		
1302	RESERVED		
1303	Replace a starter spring, pulley, and starter rope.		
1304	RESERVED		
1305	Troubleshoot and repair a starting/safety interlock circuit.		
1306	Remove, service and replace a direct current (DC) starter.		
1307	Remove, service and replace an alternating current (AC) starter.		
1308	Identify and describe the components of a direct current (DC) starting system.		
1309	Perform a 12-volt direct current (DC) starter motor current draw test.		
1310	Remove, test, and replace a starter relay or solenoid.		
1400	Ignition System		
1401	Identify, remove, service, and replace battery ignition system components		
1402	Identify, remove, service, and replace electronic ignition system components.		
1403	RESERVED		
1404	Check and set ignition timing/air gap.		
1405	RESERVED		
1406	Test an ignition system using a spark tester.		
1407	Inspect the engine for a sheared flywheel key.		
1408	Remove, inspect, and replace points and condenser.		
1409	RESERVED		
1410	Replace a spark plug terminal and boot.		
1411	Test a solid-state, transistor-controlled discharge system.		
1412	Test a capacitive discharge ignition system.		
1413	RESERVED		
1414	Perform timing procedures on an engine with a solid state/electronic ignition system.		
1415	RESERVED		
1416	Replace an engine ignition kill switch.		
1500	Charging Systems		
1501	Explain battery theory and perform maintenance and storage procedures.		
1502	Identify and describe the function of charging system components.		
1503	Perform a current draw test.		
1504	Test and troubleshoot the components of a charging system.		
1505	RESERVED		
1506	RESERVED		
1507	RESERVED		
1508	Remove and replace charging system components.		

Task Number	Description	Hours	Level
1600	Lubrication System		
1601	RESERVED		
1602	RESERVED		
1603	Change engine oil and filter.		
1604	Select proper oil and grade utilizing application charts.		
1605	Prepare a fuel/oil mixture for a 2-stroke cycle engine.		
1606	Service a crankcase breather assembly.		
1607	Describe lubrication systems and their functions.		
1608	Interpret American Petroleum Institute (API) oil ratings and Society of Automotive Engineers (SAE) viscosity ratings.		
1609	Describe the standard classification of 2-cycle oils.		
1610	List common oil contaminants.		
1611	Identify differences between splash lubrication systems and a pressure lubrication system.		
1612	Describe the operation of oil filtration systems.		
1613	Describe methods of checking the oil level in an engine.		
1614	RESERVED		
1615	Identify the components and function of a crankcase ventilation breather assembly		
1616	Perform an oil pressure test.		
1617	Diagnose and repair a low-oil alert system.		
1700	Governor Systems		
1701	Perform static and dynamic governer adjustments.		
1702	Remove, service, and replace pneumatic and mechanical governor.		
1703	Check top no-load speed and adjust governor as needed.		
1704	Differentiate hunting/surging symptom between the fuel system and governor system.		
1800	Brake Systems		
1801	Inspect, remove, services, and repair mechanical brake systems.		
1802	Inspect, remove, service, and repair hydraulic brake systems.		
1803	Inspect, remove, service, and repair drum and disc brakes.		
1804	Explain hydraulic brake theory.		
1805	RESERVED		
1900	Clutch and Drive System		
1901	Inspect and service or replace belts and tensioning devices.		
1902	Inspect and service or replace centrifugal clutches.		
1903	Inspect and service or replace clutch discs.		
1904	Inspect and service or replace sprockets and chains.		
1905	Inspect and service or replace an electric power take-off.		
1906	Inspect and service or replace universal joints.		
1907	Disassemble, service and reassemble gearboxes and components		
1908	Disassemble, service and reassemble transaxles.		
1909	Disassemble, service and reassemble hydrostatic drives.		

Task Number	Description	Hours	Level
1910	Change hydraulic fluid and filter.		
2000	Parts Management, Invoicing, and Recordkeeping		
2001	Interpret illustrations, graphs, diagrams, and tables.		
2002	Use reference materials, service manuals, and parts tables.		
2003	Perform inventory of parts in stock.		
2004	Locate parts and specifications using a computerized or microfiche parts reference database.		
2005	Complete a service order/invoice form.		
2006	Interpret time and flat rate information.		
2007	Order materials and supplies.		
2008	Explain a manufacturer s model number, serial number, engine type number, and vehicle identification numbers (VIN).		
2100	Wheels and Chassis Service		
2101	Remove and replace or repair tubeless tire and valve stem		
2102	Remove and replace or repair a tube type tire.		
2103	Service and replace wheel bearings and bushings.		
2104	Inspect, service, and replace steering components.		
2105	Inspect, service, and repair chassis.		
**Local Task List*			
VA3513	13.2.11.A- Apply effective speaking and listening skills used in a job interview.		
VA3514	13.2.11.B- Apply research skills in searching for a job. (CareerLink, O-NET, Networking, Newspapers, Professional Associations, Reource Books (OOH), etc.		
VA3515	13.2.11.C-Develop and assemble, for career portfolio placement, career acquisition documents, such as, but not limited to: job application, letter of appreciation, Cover Letter, Resume, Post-Secondary Application, etc.		
VA3516	13.2.11.E- Demonstrate, in the career acquisition process, the application of essential workplace skills/knowledge, such as, but not limited to: Communication, Health and Safety, Resilience, Integrity, Problem Solving, Teamwork and Communication.		
VA3517	13.3.11.A- Evaluate personal attitudes and work habits that support career retention and advancement, with focus on Resilience, Integrity, Problem Solving, Communication, Teamwork.		
VA3518	13.3.11.B-Evaluate team member roles and describe and illustrate active listening techniques: clarifying, encouraging, reflecting, restating, and summarizing.		
VA3519	13.3.11.C- Evaluate conflict resolution skills as they related to the workplace.: constructive criticism, group dynamics, managing leaderships, mediation, negotiation, problem solving.		
VA3520	13.3.11.D- Develop a personal budget based on career choice, such as but not limited to : fixed/variable expenses, gross pay, net pay, saving, taxes.		