

CURRICULUM MAP
Cluster: Transportation, Distribution & Logistics
CTE Program of Study: TR1960 Power Equipment Systems

STANDARD	%	SKILL SET/COMPETENCY	REQUIRED CORE COURSES FOR COMPLETION			
			1962 Fundamentals of Power Equipment I	1964 Fundamentals of Power Equipment II	1966 Power Equipment Service I	1968 Power Equipment Service II
Safety	10%	Identify and test equipment safety devices	X	X	X	X
		Demonstrate proper techniques for hand tools (e.g., screwdriver, torque wrenches)	X	X	X	X
		Demonstrate proper techniques for power tools and machinery	X	X	X	X
		Demonstrate proper handling, containment, and clean-up of hazardous materials (e.g., SDS)	X	X	X	X
		Demonstrate proper usage of personal protective equipment (PPE)	X	X	X	X
		Demonstrate safe operation of small engines and equipment	X	X	X	X
General Shop Practices	6%	Locate parts and equipment information using printed and electronic media	X	X	X	X
		Write a parts and labor invoice	X	X	X	X
		Calculate materials mark-up, labor time, and state tax	X	X	X	X
		Demonstrate timekeeping and parts usage on worksheet and job ticket	X	X	X	X
Maintenance	12%	Identify and conduct manufacturer's recommended service procedures	X		X	X
		Inspect, test, and adjust safety-stop devices	X		X	X
		Inspect and service intake and exhaust systems				X
		Identify and inspect PTO and drive train (e.g., belts, blades, pulleys, spindles)				X

STANDARD	%	SKILL SET/COMPETENCY	REQUIRED CORE COURSES FOR COMPLETION			
			1962 Fundamentals of Power Equipment I	1964 Fundamentals of Power Equipment II	1966 Power Equipment Service I	1968 Power Equipment Service II
		Inspect and service cooling system components (air and liquid cooled)				X
		Adjust levers and controls				X
Lubrication Systems	5%	Inspect and service engine lubrication system including breathers, filters, and strainers		X	X	
		Identify types of lubricating mechanisms		X	X	
		Identify proper types of oil and lubricants		X	X	
Fuel Systems Fundamentals	14%	Inspect fuel tank, lines, and filters	X			
		Identify and service fuel delivery system components, including carburetor and fuel injection systems	X			
		Adjust and service fuel system controls and linkages	X			
		Explain fuel injection theory	X			
		Explain carburetor theory	X			
		Inspect and service air filtration system	X			
		Disassemble, clean, inspect, and reassemble carburetor (diaphragm and oat bowl)	X			
Governor	6%	Identify governor parts, functions, and types	X		X	
		Inspect, service, and adjust governor	X		X	
		Identify governor-related problems	X		X	
Ignition	6%	Explain ignition theory and coil output				
		Identify, inspect, test, and adjust ignition components				
		Disassemble, service, and reassemble ignition system and/or components				
		Service and repair charging and starting systems		X		

STANDARD	%	SKILL SET/COMPETENCY	REQUIRED CORE COURSES FOR COMPLETION			
			1962 Fundamentals of Power Equipment I	1964 Fundamentals of Power Equipment II	1966 Power Equipment Service I	1968 Power Equipment Service II
		Inspect and perform battery service		X		
Cylinder Head and Valve, Service and Maintenance	10%	Explain theory of compression	X			
		Perform compression test and cylinder leak down test	X			
		Remove, inspect, reinstall, and adjust valves	X			
		Inspect and measure valve guides and valve stems	X			
		Remove, inspect, and reinstall cylinder head to manufacturer's specifications	X			
Engine Assembly	9%	Identify correct timing of crankshaft, camshaft, balance shaft, gears, and flywheel	X			
		Identify and inspect, crankshaft, camshaft, balance shaft, gears, and flywheel	X			
		Identify, inspect, and measure piston, rings, and cylinder	X			
		Identify, inspect, and measure bearing clearances and journal sizes of the crankshaft and connecting rod	X			
		Identify proper usage of gaskets and sealants	X			X
Troubleshooting	16%	Troubleshoot ignition system problems				X
		Troubleshoot starting and charging system problems				X
		Troubleshoot cooling system problems				X
		Troubleshoot fuel system problems				X
		Troubleshoot lubrication system problems				X
		Troubleshoot compression problems related to cylinder head and valves				
		Troubleshoot low power and rough running conditions				