

**Correlation to SkillsUSA Standards and Competences
Power Equipment Technology**

PET 1.0 – Ignition, Charging, Fuel and Governor Systems		
1.1 – Ignition and Charging Systems		
1.1.1	Understand and be able to disassemble ignition system, inspect and test ignition components	195–211, 291–302
1.1.2	Show proficiency in testing coil/ignition modules	296
1.1.3	Repair/replace electronic ignition components	295–297
1.1.4	Test and troubleshoot equipment-related switches and harnesses along with stators, regulators and any related wiring harnesses	302–308
1.2 – Fuel Systems		
1.2.1	Explain and be able to inspect, service, repair and adjust carburetors, gaseous fuel regulators and mixers	173–186, 268–281, 284–290
1.2.2	Inspect, clean and replace filters	157, 267–268, 387, 469–470
1.2.3	Check fuel tanks and service and repair fuel pumps and solenoids	158–160, 265–269
1.2.4	Test equipment-related fuel tanks, lines and related systems and understand the procedures for testing for compliance systems as they are related to emission requirements and standards	265–269
1.3 – Governor Systems		
1.3.1	Understand and be able to explain the various governor systems	187–192
1.3.2	Inspect, service and reassemble governors	280–281
1.3.3	Understand and be able to explain which components cause engines to increase or decrease in the number of revolutions per minute	187–192
PET 2.0 – Starter, Cooling and Lubrication Systems		
2.1 – Starter Systems		
2.1.1	Recognize and be able to demonstrate the ability to inspect, service and adjust the various starting systems; use wiring schematics of related equipment systems	127–130, 302–305, 421–427, 445
2.2 – Cooling Systems		
2.2.1	Recognize, test and troubleshoot both liquid and air-cooled cooling systems of both engines and equipment	231–238, 243, 252–253, 435,

			466, 473–474
	2.2.2	Understand and recognize signs of heat-related failures or problems	260,312, 324, 329
2.3 – Lubricating Systems			
	2.3.1	Define and understand the various styles and types of lubrication systems.	221–228
	2.3.2	Demonstrate the ability to check oil levels and fuel/oil mixtures.	221–222, 244
	2.3.3	Demonstrate the method of checking oil pressurized systems with the use of required tools.	
	2.3.4	Understand and explain the various grades of oils and uses in the proper engines/equipment.	215–221
PET 3.0 – Valves, Exhaust and Engine Block Systems			
3.1 – Valves			
	3.1.1	Identify and be able to service various types and styles of valve train components; explain why sealing these components is important.	121–128, 324–326, 341–355, 364–365
3.2 – Exhaust Systems			
	3.2.1	Identify the various types of exhaust systems and explain how they relate to the engine and or equipment.	105, 166–167, 387, 396
	3.2.2	Inspect and service exhaust and understand the procedures for testing for compliance systems as they are related to emission requirements and standards.	166–170, 250
3.3 – Engine Block Components			
	3.3.1	Understand, identify and provide the necessary service/repair techniques to the various manufacturers within the industry; this could include disassembly, inspection and measuring of crankshafts, connecting rod bearings, journals, cylinders, piston and rings.	311–368
	3.3.2	Complete repairs to correct torque of critical fasteners and replace any gaskets and/or sealants.	56–57, 66–69, 357–365
PET 4.0 – Diagnostic and Failure Analysis			
	4.1	Demonstrate the proper use of the various specialized tools of the industry. Be able to test crankcase vacuum, compression gauge, leak down testers, voltmeters/multimeters and any other required tools.	23–50, 254–258, 349–350
	4.2	Analyze failed engine components to determine the correct type of failure; determine best method to repair and estimate cost of repair.	317–326, 329–339, 341–355
PET 5.0 – Shop Procedures			
	5.1	Demonstrate the proper techniques in the care and use of tools and equipment.	16, 18, 23–50, 482

	5.2	Demonstrate the ability to work accurately with precision instruments.	38–50, 330–331–339
	5.3	Use proper safety procedures; demonstrate ability to use service manuals and/or bulletins.	15–21, 258–261
	5.4	Perform tasks within assigned time limits.	485
	5.5	Give a verbal response to a customer and answer customer-related problematic questions.	486
	5.6	Prepare equipment for delivery.	375
PET 6.0 – Business Operation			
	6.1	Demonstrate the ability to look up proper part numbers by using paper, microfiche and/or electronic means available.	258–261
	6.2	Prepare both shop repair tickets and warranty claims.	486–487
	6.3	Demonstrate the ability to calculate costs accurately.	486–487
	6.4	Understand and operate equipment within equipment manufacturer's guidelines.	373, 390–394, 397–400, 403–404, 451
	6.5	Understand effective customer interaction and professional customer communications and relations.	486–487
PET 7.0 – Transmission/Power Train			
	7.1	Understand the theory of transmission and transaxle components.	139–141, 412–421
	7.2	Disassemble power train components, assemble power train components and diagnose and correct a potential problem.	421–422
	7.3	Understand the different types of transmissions and what types of lubrication systems are necessary for each.	414–421
PET 8.0 – General Competencies			
	8.1	Basic reading and comprehension.	379
	8.2	Understand basic two- and four-stroke theory.	95–106
	8.3	Understand electrical theory.	73–91

	8.4	Understand carburetion theory and other related fuel systems.	173–186
	8.5	Read and follow schematics for hydraulics, electrical, etcetera.	419, 427–433
	8.6	Communicate effectively to others.	486
	8.7	Demonstrate basic computer skills.	486