

Standards Correlations

Diesel Equipment Technology I (8613)

Task	SOL Correlations
Demonstrating Personal Qualities and Abilities	
Demonstrate creativity and innovation.	<p>English: 6.1, 6.3, 6.4, 6.6, 6.7, 6.9, 7.1, 7.3, 7.4, 7.6, 7.7, 7.9, 8.1, 8.3, 8.4, 8.6, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8</p> <p>History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WG.4, WHI.1, WHII.1</p> <p>Mathematics: 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.10, 6.11, 6.12, 7.2, 7.3, 7.8, 7.9, 8.2, 8.4, 8.6, 8.7, 8.11, 8.12, 8.17, 8.18, A.9, AFDA.3, AFDA.4, AFDA.5, AFDA.6, AFDA.7, AFDA.8, AII.9, COM.1, COM.3, COM.4, COM.5, COM.8, DM.7, DM.1*, DM.10, DM.2*, DM.3*, PS.3*, PS.4*, PS.7*, PS.9*, PS.10*</p> <p>Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PS.1</p>
Demonstrate critical thinking and problem solving.	<p>English: 6.1, 6.3, 6.4, 6.5, 6.6, 6.7, 6.9, 7.1, 7.3, 7.4, 7.5, 7.6, 7.7, 7.9, 8.1, 8.3, 8.4, 8.5, 8.6, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8</p> <p>History and Social Science: CE.1, CE.4, CE.11, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WG.4, WHI.1, WHII.1</p> <p>Mathematics: 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.10, 6.11, 7.2, 7.3, 7.8, 7.12, 7.13, 8.2, 8.4, 8.8, 8.9, 8.10, 8.11, A.8, A.9, G.1, G.13, G.14, AFDA.3, AFDA.5, AFDA.8, AII.9, AII.10, AII.11, COM.1, COM.3, COM.4, COM.5, COM.8, DM.4, DM.7, DM.1*, DM.2*, DM.3*, DM.9*, PS.9*, PS.10*</p> <p>Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PS.1</p>
Demonstrate initiative and self-direction.	<p>English: 6.1, 6.4, 6.6, 6.7, 6.9, 7.1, 7.4, 7.6, 7.7, 7.9, 8.1, 8.4, 8.6, 8.7, 8.9,</p>

Task	SOL Correlations
	9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.4, CE.11, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1
Demonstrate integrity.	English: 6.1, 7.1, 8.1, 9.1, 9.5, 10.1, 10.5, 11.1, 11.5, 12.1, 12.5 History and Social Science: CE.1, CE.3, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1
Demonstrate work ethic.	English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Science: CH.1
Demonstrating Interpersonal Skills	
Demonstrate conflict-resolution skills.	English: 6.1, 6.2, 6.4, 6.6, 6.7, 6.9, 7.1, 7.2, 7.4, 7.6, 7.7, 7.9, 8.1, 8.2, 8.4, 8.6, 8.7, 8.9, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.4, GOVT.1, USI.1, VUS.1
Demonstrate listening and speaking skills.	English: 6.1, 6.2, 6.4, 6.6, 7.1, 7.2, 7.4, 7.6, 8.1, 8.2, 8.4, 8.6, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1
Demonstrate respect for diversity.	English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.3, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, USII.9, VUS.1, VUS.13, WG.1, WHI.1, WHII.1
Demonstrate customer service skills.	English: 6.1, 6.4, 6.7, 7.1, 7.4, 7.7, 8.1, 8.4, 8.7, 9.1, 9.5, 9.6, 10.1, 10.5, 10.6, 11.1, 11.5, 11.6, 12.1, 12.5, 12.6 History and Social Science: CE.1, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1
Collaborate with team members	English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.3, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1

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Demonstrating Professional Competencies	
Demonstrate big-picture thinking.	English: 6.1, 6.4, 7.1, 7.4, 8.1, 8.4, 9.1, 9.5, 10.1, 10.5, 11.1, 11.5, 12.1, 12.5 History and Social Science: CE.1, CE.4, CE.12, GOVT.1, GOVT.15, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1
Demonstrate career- and life-management skills.	English: 6.1, 6.7, 7.1, 7.7, 8.1, 8.7, 9.1, 9.6, 10.1, 10.6, 11.1, 11.6, 12.1, 12.6 History and Social Science: CE.1, CE.4, CE.12, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 8.4
Demonstrate continuous learning and adaptability.	English: 6.1, 6.4, 6.7, 6.9, 7.1, 7.4, 7.7, 7.9, 8.1, 8.4, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.3, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Science: BIO.1, CH.1, LS.1, PH.1, PH.4, PS.1
Manage time and resources.	English: 6.1, 6.2, 6.4, 6.7, 6.9, 7.1, 7.2, 7.4, 7.7, 7.9, 8.1, 8.2, 8.4, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.2, 11.5, 11.6, 11.8, 12.2, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.4, CE.11, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 6.10, 6.11, 6.12, 7.2, 7.3, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 8.4, 8.11, 8.12, 8.13, 8.14, 8.17, 8.18, A.4, A.5, A.8, A.9, AFDA.3, AFDA.4, AFDA.5, AFDA.6, AFDA.7, AFDA.8, COM.1, COM.3, COM.5, COM.8
Demonstrate information-literacy skills.	English: 6.1, 6.2, 6.4, 6.6, 6.7, 6.9, 7.1, 7.2, 7.3, 7.4, 7.6, 7.7, 7.9, 8.1, 8.2, 8.3, 8.4, 8.6, 8.7, 8.9, 9.2, 9.5, 9.6, 9.8, 10.2, 10.5, 10.6, 10.8, 11.2, 11.5, 11.6, 11.8, 12.2, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 6.10, 6.11, 7.8, 7.9, 8.11, 8.12, A.8, A.9, AFDA.3, AFDA.4, AFDA.6, AFDA.7, AFDA.8, DM.8, PS.1*, PS.2*, PS.3*, PS.4*, PS.7*,

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	PS.8*, PS.9*, PS.10* Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PH.1, PS.1
Demonstrate an understanding of information security.	English: 6.1, 6.2, 6.3, 6.4, 6.6, 6.7, 6.8, 6.9, 7.1, 7.2, 7.3, 7.4, 7.6, 7.7, 7.8, 7.9, 8.1, 8.2, 8.3, 8.4, 8.6, 8.7, 8.8, 8.9, 9.1, 9.2, 9.5, 9.6, 9.8, 10.1, 10.2, 10.5, 10.6, 10.8, 11.1, 11.2, 11.5, 11.6, 11.8, 12.1, 12.2, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: COM.10
Maintain working knowledge of current information-technology (IT) systems.	English: 6.1, 6.3, 6.4, 6.6, 6.9, 7.1, 7.3, 7.4, 7.6, 7.9, 8.1, 8.3, 8.4, 8.6, 8.9 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 7.8, COM.1, COM.2, COM.7, COM.9, COM.10, COM.11, COM.16, COM.18, PS.17 Science: BIO.1, CH.1, ES.1, PH.1
Demonstrate proficiency with technologies, tools, and machines common to a specific occupation.	History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 6.10, 6.11, 7.9, 8.4, A.7, A.8, A.9, AFDA.1, AFDA.3, AFDA.5, AII.4, AII.7, AII.9, COM.1, COM.7, COM.10, COM.11, COM.12, COM.16 Science: CH.1, ES.1, LS.1, PH.1, PS.1
Apply mathematical skills to job-specific tasks.	English: 6.4, 6.6, 6.7, 7.4, 7.6, 7.7, 8.4, 8.6, 8.7, 9.5, 9.6, 10.5, 10.6, 11.5, 11.6, 12.5, 12.6 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 6.1, 6.2, 6.5, 6.6, 6.12, 6.13, 6.14, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.8, 7.9, 7.11, 7.12, 7.13, 8.4, 8.5, 8.6, 8.8, 8.9, 8.10, 8.11, 8.12, 8.13, 8.14, 8.15, 8.16, 8.17, 8.18, A.1, A.3, A.4, A.5, A.7, A.8, A.9, AFDA.1, AFDA.3, AFDA.5, AFDA.8, AII.3, AII.7, AII.9, AII.10, COM.1, COM.7 Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PH.1, PS.1
Demonstrate professionalism.	English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1

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	History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1
Demonstrate reading and writing skills.	English: 6.1, 6.6, 6.7, 7.1, 7.6, 7.7, 8.1, 8.6, 8.7, 9.1, 9.5, 9.6, 9.7, 10.1, 10.5, 10.6, 10.7, 11.1, 11.5, 11.6, 11.7, 12.1, 12.5, 12.6, 12.7 History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Science: 6.1, PH.1, PS.1
Demonstrate workplace safety.	English: 6.4, 7.4, 8.4, 9.5, 10.5, 11.5, 12.5 History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Science: CH.1
Examining All Aspects of an Industry	
Examine aspects of planning within an industry/organization.	History and Social Science: GOVT.16
Examine aspects of management within an industry/organization.	
Examine aspects of financial responsibility within an industry/organization.	
Examine technical and production skills required of workers within an industry/organization.	
Examine principles of technology that underlie an industry/organization.	
Examine labor issues related to an industry/organization.	History and Social Science: GOVT.16
Examine community issues related to an industry/organization.	History and Social Science: GOVT.16
Examine health, safety, and environmental issues related to an industry/organization.	History and Social Science: GOVT.16

Task	SOL Correlations
Addressing Elements of Student Life	
Identify the purposes and goals of the student organization.	
Explain the benefits and responsibilities of membership in the student organization as a student and in professional/civic organizations as an adult.	
Demonstrate leadership skills through participation in student organization activities, such as meetings, programs, and projects.	
Identify Internet safety issues and procedures for complying with acceptable use standards.	
Exploring Work-Based Learning	
Identify the types of work-based learning (WBL) opportunities.	
Reflect on lessons learned during the WBL experience.	
Explore career opportunities related to the WBL experience.	
Participate in a WBL experience, when appropriate.	
Practicing Lab and Personal Safety	
Identify general lab safety rules and procedures.	<p>English: 10.5, 11.5</p> <p>Science: CH.1</p> <p>Social Studies: WHII 8, VUS 8</p>
Use safe procedures for the handling of tools and equipment.	English: 10.5, 11.5

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	Social Studies: WHII 8, VUS 8
Identify and use correct placement of floor jacks and jack stands.	English: 10.5, 11.5 Social Studies: WHII 8, VUS 8
Identify the procedures for safe lift operation.	English: 10.5, 11.5 Social Studies: WHII 8, VUS 8
Use the ventilation procedures for working within the lab area.	Social Studies: WHII 8, VUS 8
Identify marked safety areas.	English: 10.5, 11.5 Social Studies: WHII 8, VUS 8
Identify the location and the types of fire extinguishers and other fire safety equipment.	English: 10.5, 11.5 Science: CH.1 Social Studies: WHII 8, VUS 8
Identify the location and use of eye wash stations.	English: 10.5, 11.5 Science: CH.1 Social Studies: WHII 8, VUS 8
Identify the location of the posted evacuation routes.	English: 10.5, 11.5 Science: CH.1 Social Studies: WHII 8, VUS 8
Comply with the required use of safety glasses, ear protection, gloves, and shoes during lab activities.	Science: CH.1

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	Social Studies: WHII 8, VUS 8
Wear appropriate clothing for lab activities.	English: 10.5, 11.5 Science: CH.1 Social Studies: WHII 8, VUS 8
Comply with policies concerning hair and jewelry for lab activities.	English: 10.5, 11.5 Science: CH.1 Social Studies: WHII 8, VUS 8
Demonstrate awareness of the safety aspects of supplemental restraint systems (SRS), electronic brake control systems, and high-voltage hybrid vehicle circuits.	
Demonstrate awareness of the safety aspects of high-voltage circuits.	English: 10.5, 11.5 Social Studies: WHII 8, VUS 8
Demonstrate knowledge of safety data sheets' (SDS) location and content.	English: 10.5, 11.5 Science: CH.1 Social Studies: WHII 8, VUS 8
Using Tools and Equipment	
Identify tools and their usage in diesel applications.	English: 10.5, 11.5
Identify standard and metric designation.	English: 10.5, 11.5
Demonstrate the safe handling, maintenance, and use of tools.	English: 10.5, 11.5
Demonstrate cleaning, storage, and maintenance of tools	English: 10.5, 11.5

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and equipment.	
Demonstrate the use of precision measuring tools.	
Preparing Vehicle for Service	
Identify information needed and the service requested on a repair order.	English: 10.5, 10.6, 10.7, 11.5, 11.6, 11.7
Identify the purpose and demonstrate the use of fender covers and mats.	
Demonstrate the use of the three Cs (concern, cause, and correction).	
Review the vehicle service history.	English: 10.5, 11.5
Complete a work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction.	English: 10.5, 11.5
Preparing Vehicle for Customer	
Ensure the vehicle is prepared to return to the customer per school/company policy.	
Review repairs and concerns with the customer.	English: 10.6, 10.7, 11.6, 11.7
Diesel Engines: General	
Inspect the fluid levels.	
Identify engine fuel, oil, coolant, air, and other leaks.	
Diagnose the engine operation.	English: 10.5, 11.5
Observe engine exhaust.	English: 10.5, 11.5
Diesel Engines: Servicing Cylinder Head and Valve Train	
Inspect the cylinder head.	English: 10.5, 11.5
Inspect the valves, guides, seats, springs, retainers,	English: 10.5, 11.5

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rotators, locks, and seals.	
Measure the valve head height relative to deck and valve face-to-seat contact.	English: 10.5, 11.5
Inspect the injector sleeves and seals.	English: 10.5, 11.5
Diesel Engines: Servicing Cooling Systems	
Identify the engine coolant type, level, condition, and consumption.	English: 10.5, 11.5
Identify coolant temperature and level sensors, gauges, and sending units.	English: 10.5, 11.5
Inspect pulleys, tensioners, and drive belts.	English: 10.5, 11.5
Identify thermostats, by-passes, housings, and seals.	English: 10.5, 11.5
Refill the coolant/additive package.	English: 10.5, 11.5
Inspect the coolant conditioner/filter assembly for leaks.	English: 10.5, 11.5
Inspect the water pump and hoses.	
Inspect the radiator.	English: 10.5, 11.5
Inspect the thermostatic cooling fan system and fan shroud for proper operation.	English: 10.5, 11.5
Inspect the turbo charger cooling systems.	English: 10.5, 11.5
Identify the location and type of block heater.	
Diesel Engines: Servicing Air Induction and Exhaust Systems	
Perform air intake system restriction and leakage tests.	English: 10.5, 11.5
Perform intake manifold pressure (boost) tests.	English: 10.5, 11.5
Check the exhaust back pressure.	English: 10.5, 11.5
Inspect the turbocharger, wastegate, and piping systems.	English: 10.5, 11.5
Inspect the variable geometry turbocharger (VGT),	English: 10.5, 11.5

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pneumatic, hydraulic, and electronic controls and actuators.	
Check the air induction system.	English: 10.5, 11.5
Identify turbocharger/wastegate assembly.	
Inspect the intake manifold, gaskets, and connections.	
Inspect the charge air cooler (CAC) assemblies.	English: 10.5, 11.5
Inspect the exhaust manifold, piping, EGR, aftertreatment, mufflers, and mounting hardware.	
Inspect exhaust aftertreatment devices.	English: 10.5, 11.5
Diesel Engines: Servicing Fuel Supply System	
Check the fuel level and its condition.	
Perform fuel supply and return system tests.	English: 10.5, 11.5
Inspect fuel tanks, vents, caps, mounts, valves, screens, crossover system, supply and return lines and fittings.	
Diesel Engines: Servicing Engine Brakes	
Identify engine compression/exhaust brakes.	English: 10.5, 11.5
Identify engine compression/exhaust brake control circuits, switches, and solenoids.	English: 10.5, 11.5
Identify the engine compression/exhaust brake housing, valves, seals, lines, and fittings.	English: 10.5, 11.5
Brakes: Servicing Hydraulic Brakes	
Identify poor stopping, premature wear, pulling, dragging, balance, or pedal feel problems caused by the hydraulic system.	
Test the master cylinder for internal/external leaks and damage.	

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Inspect the hydraulic system brake lines, flexible hoses, and fittings for leaks and damage.	
Test metering (hold-off), load sensing/proportioning, proportioning, and combination valves.	English: 10.5, 11.5
Test the brake pressure differential valve and warning light circuit switch, bulbs/LEDs, wiring, and connectors.	
Inspect the disc brake caliper assemblies.	
Inspect the brake fluid.	
Brakes: Servicing Mechanical/Foundation Brakes	
Identify poor stopping, brake noise, premature wear, pulling, grabbing, dragging, or pedal feel problems caused by mechanical components.	English: 10.5, 11.5
Inspect the rotors.	
Inspect the disc brake pads and mounting hardware.	English: 10.5, 11.5
Inspect the parking brake application and the holding devices.	
Brakes: Servicing Power Assist Units	
Identify ways to stop problems caused by the brake assist (booster) system.	
Repair or replace the hydraulic brake assist (booster), hoses, and control valves.	
Check the back-up or reserve brake assist system.	
Brakes: Servicing Wheel Bearings	
Replace the wheel bearings and races/cups.	English: 10.5, 11.5
Replace the unitized/preset hub bearing assemblies.	English: 10.5, 11.5
Suspension and Steering: Wheels and Tires	

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Identify abnormal tire wear patterns.	English: 10.5, 11.5
Identify causes of wheel/tire vibrations.	English: 10.5, 11.5
Install steering and drive axle wheel/tire assemblies.	English: 10.5, 11.5
Identify Federal Motor Vehicle Safety Standards (FMVSS) 121 as they apply to wheel and tire assemblies.	
Inspect the tire for proper application.	English: 10.5, 11.5
Inspect the wheel/rims for application.	English: 10.5, 11.5
Check the operation of tire pressure monitoring system (TPMS).	English: 10.5, 11.5
Electrical/Electronic Systems: General Electrical Systems	
Interpret electrical/electronic circuits, using wiring diagrams.	English: 10.5, 11.5 Science: PH.11
Check the continuity in electrical/electronic circuits using the appropriate test equipment.	English: 10.5, 11.5 Science: PH.11
Check the applied voltages, circuit voltages, and voltage drops in electrical/electronic circuits using appropriate test equipment.	Science: PH.11
Check the current flow in electrical/electronic circuits and components using appropriate test equipment.	English: 10.5, 11.5 Mathematics: AII.3, AII.10

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	Science: PH.11
Check resistance in electrical/electronic circuits and components using appropriate test equipment.	English: 10.5, 11.5 Mathematics: AII.3, AII.10 Science: PH.11
Locate the shorts, grounds, and opens in electrical/electronic circuits.	English: 10.5, 11.5 Science: PH.11
Identify parasitic (key-off) battery drain problems.	English: 10.5, 11.5
Test the fusible links, circuit breakers, relays, solenoids, and fuses.	
Test the spike suppression devices.	
Check the frequency and pulse width signal in electrical/electronic circuits using the appropriate test equipment.	
Electrical/Electronic Systems: Servicing Battery	
Perform the appropriate battery load test.	English: 10.5, 11.5
Identify the battery types and system configuration.	English: 10.5, 11.5
Determine the battery state of charge and state of health using an open circuit voltage test.	English: 10.5, 11.5
Service the battery.	English: 10.5, 11.5
Clean the battery boxes, mounts, and hold downs.	
Charge the battery using the appropriate method for	English: 10.5, 11.5

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battery type.	
Clean the battery cables and connectors.	English: 10.5, 11.5
Jump start a vehicle.	English: 10.5, 11.5
Perform battery capacitance test.	English: 10.5, 11.5
Test the low voltage disconnect (LVD) systems.	English: 10.5, 11.5
Electrical/Electronic Systems: Servicing Gauges and Warning Devices	
Identify the causes of intermittent, high, low, or no gauge readings for analog systems.	English: 10.5, 11.5
Test the gauge circuit sensor/sending units, gauges, connectors, terminals, and wires.	
Preventive Maintenance and Inspection: Servicing Engine	
Check the engine starting and operation.	English: 10.5, 11.5
Inspect the belts, tensioners, and pulleys.	
Inspect the vibration damper.	
Check the engine oil level and condition.	
Inspect the engine mounts for looseness and deterioration.	
Check the engine for oil, coolant, air, fuel, and exhaust leaks.	
Check the engine compartment wiring harness, connectors, and seals for damage and routing.	
Preventive Maintenance and Inspection: Servicing Fuel System	
Check the fuel tanks, mountings, lines, caps, and vents.	
Drain the water and contaminants from the fuel system.	English: 10.5, 11.5
Service the water separator/fuel heater and fuel filter(s).	

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Preventive Maintenance and Inspection: Servicing Air Induction and Exhaust System	
Check the exhaust system mountings for looseness and damage.	English: 10.6, 10.7, 11.6, 11.7
Check the engine exhaust system for leaks, proper routing, and damaged or missing components to include exhaust gas recirculation (EGR) system and after-treatment devices, if equipped.	
Inspect exhaust gas recirculation (EGR) system.	
Check the air induction system for air restrictions and leaks.	English: 10.6, 10.7, 11.6, 11.7
Inspect the turbocharger for leaks.	
Check the operation of engine compression/exhaust brake.	English: 10.6, 10.7, 11.6, 11.7
Replace the air filter as needed.	
Service the crankcase ventilation system.	English: 10.5, 11.5
Inspect the diesel exhaust fluid (DEF) system.	English: 10.5, 11.5
Inspect the selective catalyst reduction (SCR) system.	
Preventive Maintenance and Inspection: Servicing Cooling System	
Check the operation of a fan clutch.	English: 10.6, 10.7, 11.6, 11.7
Inspect the radiator and mountings.	
Inspect the fan assembly and shroud.	
Pressure the test cooling system and radiator cap.	
Inspect the coolant hoses and clamps.	
Inspect the coolant recovery system.	
Check the coolant for contamination, additive package	

Task	SOL Correlations
concentration, aeration, and protection level (i.e., freeze point).	
Service the coolant filter.	English: 10.5, 11.5
Inspect the water pump.	
Preventive Maintenance and Inspection: Servicing Lubrication System	
Clean the engine oil and filters.	
Take an engine oil sample for analysis.	
Preventive Maintenance and Inspection: Servicing Cab and Hood Instruments and Controls	
Inspect the key condition and operation of the ignition switch.	English: 10.5, 11.5
Check the warning indicators.	
Check the instruments.	
Check the operation of electronic power take off (PTO) and engine idle speed controls, if applicable.	
Check the heating, ventilation, and air conditioning (HVAC) controls.	
Check the operation of all accessories.	English: 10.5, 11.5
Preventive Maintenance and Inspection: Servicing Cab and Hood Safety Equipment	
Check the operation of electric/air horns and reverse warning devices.	
Check the condition of spare fuses, safety triangles, fire extinguisher, and all required decals.	
Inspect the seat belts and sleeper restraints.	
Inspect the wiper blades and arms.	English: 10.5, 11.5
Preventive Maintenance and Inspection: Servicing Cab and Hood Hardware	

Task	SOL Correlations
Check the operation of the wiper and washer.	English: 10.5, 11.5
Inspect the quarter fender, mud flaps, and brackets.	
Inspect the windshield glass for cracks or discoloration.	
Check the seat condition, operation, seat belts, and mountings.	
Check the door glass and window operation.	
Inspect the steps and grab handles.	
Inspect the mirrors, mountings, brackets, and glass.	
Record all observed physical damage.	English: 10.5, 10.6, 11.5, 11.6
Lubricate all cab and hood grease fittings.	English: 10.5, 11.5
Lubricate the door and hood hinges, latches, strikers, lock cylinders, safety latches, linkages, and cables.	English: 10.5, 11.5
Inspect the cab mountings, hinges, latches, linkages, and cab ride height.	English: 10.5, 11.5
Preventive Maintenance and Inspection: Servicing Cab and Hood HVAC	
Identify heating, ventilation, and air conditioning (HVAC) components and configuration.	
Inspect the A/C compressor and lines for condition and visible leaks.	
Check the A/C system condition and operation.	English: 10.5, 11.5
Check the HVAC air inlet filters, ducts, doors, drains, and air flow.	English: 10.5, 11.5
Preventive Maintenance and Inspection: Servicing Battery and Starting System	
Inspect the battery box(es), cover(s), and mountings.	
Inspect the battery hold-downs, connections, cables, and	

Task	SOL Correlations
cable routing.	
Record the battery state-of-charge/state of health (open circuit voltage) and condition.	English: 10.5, 10.6, 11.5, 11.6
Perform the battery test (load and/or capacitance).	
Inspect the starter, mounting, and connections.	English: 10.5, 11.5
Check the starter for unusual noises, starter drag, and starting difficulty.	English: 10.5, 11.5
Preventive Maintenance and Inspection: Servicing Charging System	
Inspect the alternator, mountings, cable, wiring, and wiring routing.	English: 10.5, 11.5
Perform alternator output tests.	English: 10.5, 11.5
Preventive Maintenance and Inspection: Servicing Lighting System	
Check the operation of the interior lights.	English: 10.5, 11.5
Check all the exterior lights, lenses, reflectors, and conspicuity tape.	English: 10.5, 11.5
Test the tractor-to-trailer multi-wire connector(s), cable(s), and holder(s).	English: 10.5, 11.5
Preventive Maintenance and Inspection: Servicing Air Brakes	
Check the operation of the parking brake.	English: 10.5, 11.5
Check the ABS wiring, connectors, seals, and harnesses for damage and proper routing.	English: 10.5, 11.5
Record the air governor cut-in and cut-out settings.	English: 10.5, 10.6, 10.7, 11.5, 11.6, 11.7
Check the operation of the air reservoir/tank drain valves.	
Check the air system for leaks (brakes released).	

Task	SOL Correlations
Check the air system for leaks (brakes applied).	
Test the one-way check valves.	English: 10.5, 11.5
Check the low air pressure warning devices.	English: 10.5, 11.5
Check the emergency (spring) brake control/modulator valve, if applicable.	English: 10.5, 11.5
Check the tractor protection valve.	English: 10.5, 11.5
Test the air pressure build-up time.	English: 10.5, 11.5
Inspect the coupling air lines, holders, and gladhands.	
Check the brake chambers and air lines for secure mounting and damage.	
Check the operation of the air drier.	English: 10.5, 11.5
Record the brake shoe/pad condition, thickness, and contamination.	English: 10.5, 11.5
Record the condition of brake drums/rotors.	English: 10.5, 10.6, 10.7, 11.5, 11.6, 11.7
Check the antilock brake system (ABS) wiring, connectors, seals, and harnesses for damage and proper routing.	English: 10.5, 11.5
Check the operation and adjustment of brake automatic slack adjusters (ASA).	English: 10.5, 10.8, 11.5, 11.8
Lubricate all brake component grease fittings.	English: 10.5, 11.5
Check the condition and operation of the hand brake (trailer) control valve, if applicable.	English: 10.5, 11.5
Perform an ABS operational system self-test (chuff test).	English: 10.5, 11.5
Drain the air tanks.	
Check the condition and operation of safety pressure relief valves.	English: 10.5, 11.5

Task	SOL Correlations
Preventive Maintenance and Inspection: Servicing Hydraulic Brakes	
Check the master cylinder fluid level and condition.	English: 10.5, 11.5
Inspect the brake lines, fittings, flexible hoses, and valves for leaks and damage.	
Check the parking brake operation.	English: 10.5, 11.5
Check the operation of the hydraulic system.	English: 10.5, 11.5
Inspect the calipers for leakage, binding, and damage.	English: 10.5, 11.5
Inspect the brake assist system (booster), hoses, control valves, and reservoir fluid level and condition.	
Record the brake lining/pad condition thickness and contamination.	English: 10.5, 11.5
Record the condition of brake rotors.	English: 10.5, 11.5
Preventive Maintenance and Inspection: Servicing Drive Train	
Check the operation of the clutch, clutch brake, and gearshift.	
Check the clutch linkage/cable for looseness or binding, if applicable.	
Check the hydraulic clutch slave and master cylinders, lines, fittings, and hoses, if applicable.	
Check the clutch adjustment.	English: 10.5, 11.5
Check the transmission case, seals, filter, hoses, lines, fluid levels, and cooler for cracks and leaks.	
Inspect the transmission breather.	English: 10.5, 11.5
Inspect the transmission mounts.	
Check the transmission oil level, type, and condition.	English: 10.5, 11.5

Task	SOL Correlations
Inspect the U-joints, yokes, driveshafts, boots/seals, center bearings, and mounting hardware for looseness, damage, and proper phasing.	
Inspect the axle housing(s) for cracks and leaks.	
Inspect the axle housing breather(s).	English: 10.5, 11.5
Lubricate all drive train grease fittings.	English: 10.5, 11.5
Check the drive axle(s) oil level, type, and condition.	English: 10.5, 11.5
Change the drive axle(s) oil and filter/screen, if applicable.	English: 10.5, 11.5
Check the transmission wiring, connectors, seals, electrical components, and harnesses for damage corrosion and proper routing.	
Change the transmission oil and filter, if applicable.	English: 10.5, 11.5
Check the inter-axle differential lock operation.	
Check the transmission range shift operation.	English: 10.5, 11.5
Check the steering wheel operation for free play and binding.	English: 10.5, 11.5
Check the power steering pump, mounting, and hoses for leaks, condition, and routing.	
Change the power steering fluid and filter.	
Inspect the steering gear for leaks and secure mounting.	English: 10.5, 11.5
Inspect the steering shaft U-joints, steering column bearings, pivot points, adjuster, pinch bolts, splines, pitman arm-to-steering sector shaft, tie rod ends, and linkages.	

Task	SOL Correlations
Check the kingpins for wear.	English: 10.5, 11.5
Check the wheel bearings for looseness and noise.	English: 10.5, 11.5
Check the oil level and condition in all non-drive hubs.	
Inspect the springs, pins, hangers, shackles, spring U-bolts, and insulators.	English: 10.5, 11.5
Inspect the shock absorbers for leaks and secure mounting.	English: 10.5, 11.5
Inspect the air suspension springs, mounts, hoses, valves, linkage, and fittings for leaks and damage.	
Record the suspension ride height.	English: 10.5, 10.6, 10.7, 11.5, 11.6, 11.7
Lubricate all suspension and steering grease fittings.	
Check the axle locating components.	
Preventive Maintenance and Inspection: Servicing Tires and Wheels	
Inspect the tires for wear patterns and proper mounting.	English: 10.5, 11.5
Inspect the tires for cuts, cracks, bulges, and sidewall damage.	English: 10.5, 11.5
Inspect the valve caps and stems.	
Record the tread depth.	English: 10.6, 11.6
Adjust the air pressure in accordance with manufacturer guidelines.	English: 10.5, 11.5
Check the wheel mounting hardware condition and	English: 10.5, 11.5

Task	SOL Correlations
proper torque.	
Inspect the wheels for cracks, damage, and proper hand hole alignment.	English: 10.5, 11.5
Check tire matching (diameter and tread) on single and dual tire applications.	
Preventive Maintenance and Inspection: Servicing Frame and Fifth Wheel	
Inspect the fifth wheel mounting, bolts, airlines, sliders, hardware, and locks.	English: 10.5, 11.5 English: 10.5, 11.5
Test the operation of the fifth wheel locking device.	English: 10.5, 11.5
Check the quarter fenders, mud flaps, and brackets.	
Check the pintle hook assembly, operation, and mounting, if applicable.	
Lubricate all fifth wheel grease fittings and plate, if applicable.	English: 10.5, 11.5
Inspect the frame and frame members for cracks and damage.	English: 10.5, 11.5