



2024-2025

Technical Skills Assessment

Heavy Equipment/Diesel Technology

Results by Standard

Legend (%)		
0-50%	51-75%	76-100%

Assessment: Heavy Equipment/Diesel Technology	% Correct
Number tested: 77	24-25
CONTENT STANDARD 2.0: TRANSPORTATION AND HEAVY EQUIPMENT CAREERS	87.71%
Performance Standard 2.2: Industry Ethics and Standards	87.71%
2.2.1 Describe the Occupational Safety and Health Administration (OSHA) and the Mine Safety and Health Administration (MSHA) safety standards and consequences for violating them.	91.57%
2.2.4 Describe personal accountability and responsibility for your career and safety.	85.14%
CONTENT STANDARD 3.0: SAFETY AND TOOLS	82.99%
Performance Standard 3.1: Lab Safety	85.68%
3.1.1 Perform a job hazard analysis (e.g., manual lifting requirements, high-voltage commercial, alternative fuel-powered vehicles/equipment, high-pressure fluids, stored energy) prior to service.	69.48%
3.1.2 Describe the importance of maintaining a positive and active safety culture.	81.93%
3.1.3 Adhere to ventilation requirements and procedures when working in the lab/shop area.	96.39%
3.1.4 Identify marked safety areas.	90.06%
3.1.9 Comply with the required use of safety glasses, ear protection, gloves, and shoes (i.e., personal protection equipment [PPE]) during lab/shop activities.	93.07%
3.1.10 Identify clothing, jewelry, and hair hazards before engaging in lab/shop activities.	94.94%
3.1.12 Describe common shop hazards and housekeeping duties.	74.70%
3.1.13 Describe the requirements of reporting workplace safety incidents.	87.35%
Performance Standard 3.2: Tool and Equipment Safety	79.83%
3.2.1 Identify tools and equipment used in the lab/shop.	85.84%
3.2.2 Identify standard and metric designations on tools and equipment.	62.65%
3.2.3 Identify hazards associated with the use of hand and power tools and equipment.	78.31%
3.2.4 Demonstrate safe handling of tools and equipment.	90.36%
3.2.6 Demonstrate lifting procedures and use of support equipment (e.g., jacks and jackstand placement, lifts, cribbing, hoists, rigging).	87.65%
3.2.7 Maintain tools and equipment, inspecting them prior to use and removing tools from service when in need of repair or replacement.	76.20%

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3.2.8 Demonstrate accurate measurement techniques when using precision measuring tools (e.g., micrometer, dial-indicator, dial-caliper).	57.83%
CONTENT STANDARD 4.0: BASIC VEHICLE/EQUIPMENT	77.11%
Performance Standard 4.2: Vehicle/Equipment Handling for Service and Returning to Customer	77.11%
4.2.2 Perform a 360-degree vehicle/equipment, walk-around inspection.	74.70%
4.2.4 Describe the three Cs (i.e., concern, cause, correction) when inspecting and repairing vehicle/equipment.	78.31%
CONTENT STANDARD 5.0: DIESEL ENGINE SERVICE	84.34%
Performance Standard 5.1: Diesel Engine Theory, Components, and Operation	63.86%
5.1.4 Identify emission/after-treatment system components.	63.86%
Performance Standard 5.2: Preliminary Engine Inspection	94.58%
5.2.1 Inspect fuel, oil, diesel exhaust fluid (DEF) and coolant levels, and condition; determine needed action.	95.18%
5.2.2 Identify engine fuel, oil, coolant, air, and other leaks; determine needed action.	93.98%
CONTENT STANDARD 7.0: Steering and Suspension Overview	90.66%
Performance Standard 7.1: Basic Steering and Suspension Introduction	90.66%
7.1.1 Identify steering components.	86.75%
7.1.2 Identify suspension components.	94.58%
CONTENT STANDARD 10.0: BRAKE SYSTEM	72.98%
Performance Standard 10.1: Brake Theory and Operation	72.98%
10.1.1 Describe brake service safety procedures.	84.34%
10.1.3 Identify brake components for air brake systems.	71.08%
10.1.4 Describe wear limits and failures in brake linings, drums, and rotors.	44.58%
CONTENT STANDARD 11.0: ELECTRIC/ELECTRONIC SYSTEMS	73.88%
Performance Standard 11.1: General Electrical Systems	76.51%
11.1.1 Identify safety procedures related to electrical system service.	78.11%
11.1.2 Prepare the D.V.M. (digital volt/ohm meter) before use.	65.06%
11.1.3 Identify the electrical measuring units.	98.80%
11.1.4 Describe the distinctions between series, parallel, and series-parallel circuits.	77.71%
Performance Standard 11.2: Battery Service	69.38%
11.2.1 Perform battery load test per battery type; determine needed action.	55.42%
11.2.3 Inspect, clean, and service battery; replace as needed.	89.16%
11.2.5 Charge battery, using appropriate method for battery type (e.g., 12V/24V).	66.57%
11.2.6 Inspect, test, and clean battery cables and connectors; repair or replace as needed.	70.28%

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11.2.7 Jump start vehicle/equipment, using jumper cables and a booster battery or appropriate auxiliary power supply.	70.28%
Performance Standard 11.4: Charging System Diagnosis and Repair	96.39%
11.4.2 Inspect and replace alternator drive belts, pulleys, fans, tensioners, and mounting brackets; adjust drive belts and check alignment.	96.39%