



Celebrating 100 Years of Career Readiness

2018-2019

Technical Skills Assessment

Automotive Technology

Results by Standard

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

Assessment: Idaho Automotive Technology	% Correct 16-17	% Correct 17-18	% Correct 18-19
Number tested: 236	17	18	19
1) Content Standard 1.0: Identify and utilize safety procedures and proper tools	69.88%	72.51%	76.64%
1) Performance Standard 1.1: Demonstrate general lab safety rules and procedures	73.37%	76.00%	78.87%
1.1.1 Describe general shop safety rules and procedures	76.36%	80.15%	90.70%
1.1.2 Utilize safe procedures for handling of tools and equipment	31.27%	32.06%	26.74%
1.1.3 Identify and use proper placement of floor jacks and jack standards	88.84%	88.55%	86.43%
1.1.4 Identify and use proper procedures for safe vehicle life operation	70.52%	75.19%	84.69%
1.1.5 Utilize proper ventilation procedures for working within the lab/shop area	59.96%	65.27%	66.67%
1.1.6 Identify marked safety areas	89.64%	95.80%	95.35%
1.1.7 Identify the location and the types of fire extinguishers and other fire safety equipment; demonstrate knowledge of the procedures for using fire extinguishers and other safety equipment	70.92%	80.92%	75.97%
1.1.8 Identify the location and use of eye wash stations	85.26%	85.11%	84.11%
1.1.9 Identify the location of the posted evacuation routes	73.11%	75.38%	72.87%
1.1.10 Comply with the required use of safety glasses, ear protection, gloves and shoes during lab/shop activities	63.15%	62.79%	74.03%
1.1.11 Identify and wear appropriate clothing for lab/shop activities	86.85%	87.40%	87.60%
1.1.12 Secure hair and jewelry for lab/shop activities	95.62%	98.47%	--
1.1.13 Identify safety aspects of supplemental restraint systems (SRS), electronic brake control systems, and hybrid vehicle high voltage circuits	68.92%	76.34%	70.16%
1.1.14 Identify safety aspects of high voltage circuits (such as high intensity discharge (HID) lamps, ignition systems, injection systems, etc.)	82.87%	80.92%	85.27%
1.1.16 Handle and dispose of hazardous waste and materials	89.04%	90.08%	91.47%
2) Performance Standard 1.2: Identify and utilize proper tools	48.90%	51.53%	62.53%
1.2.3 Demonstrate safe handling and use of appropriate tools	55.78%	57.63%	96.90%
1.2.5 Demonstrate proper use of precision measuring tools (e.g., micrometer, dial-indicate, dial-caliper)	42.03%	45.42%	45.35%

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2) Content Standard 2.0: Perform basic vehicle service	76.89%	79.10%	87.86%
1) Performance Standard 2.1: Identify and utilize vehicle service information	66.93%	69.47%	81.78%
2.1.2 Locate and utilize Technical Service Bulletins (TSBs)	66.93%	69.47%	81.78%
2) Performance Standard 2.2: Prepare a vehicle for the customer	80.21%	82.32%	90.89%
2.2.2 Verify vehicle repair	80.21%	82.32%	90.89%
3) Content Standard 3.0: Apply concepts of engine repair (A1)	51.79%	53.50%	59.92%
1) Performance Standard 3.1: Demonstrate general engine service techniques	60.42%	61.45%	55.62%
3.1.3 Inspect engine assembly for fuel, oil, coolant, and other leaks; determine necessary action	60.42%	61.45%	55.62%
3) Performance Standard 3.3: Perform lubrication and cooling systems service and repair	43.16%	45.55%	62.79%
3.3.3 Inspect and test coolant; drain and recover coolant; flush and refill cooling system with recommended coolant; bleed air as required	30.68%	38.55%	82.95%
3.3.4 Perform oil and filter change	49.40%	49.05%	52.71%
4) Content Standard 4.0: Analyze automatic transmission/transaxle for service (A2)	66.73%	69.21%	72.80%
1) Performance Standard 4.1: Perform general transmission/transaxle service	67.57%	69.69%	72.71%
4.1.1 Research applicable vehicle and service information, fluid type, vehicle service history, service precautions, and technical service bulletins	62.02%	61.96%	65.37%
4.1.2 Check fluid level in a transmission, or a transaxle equipped with a dip-stick	86.85%	89.31%	92.64%
4.1.4 Check transmission fluid condition; check for leaks	64.94%	73.28%	74.81%
2) Performance Standard 4.2: Perform in-vehicle transmission/transaxle service and repair	62.55%	66.79%	73.26%
4.2.4 Drain and replace fluid and filter(s)	62.55%	66.79%	73.26%
5) Content Standard 5.0: Analyze manual drivetrain and axles for service (A3)	58.57%	61.58%	56.59%
1) Performance Standard 5.1: Perform general drive train service	70.12%	73.28%	67.44%
5.1.2 Drain and refill manual transmission/transaxle and final drive unit	70.12%	73.28%	67.44%
3) Performance Standard 5.3: Perform drive shaft and half shaft, universal and constant velocity (CV) joint service and repair	25.90%	33.59%	25.97%
5.3.2 Diagnose, inspect, service and replace shafts, yokes, boots, and universal/CV joints	25.90%	33.59%	25.97%
4) Performance Standard 5.4: Assess differential case assembly for service	79.68%	77.86%	76.36%
5.4.2 Clean and inspect differential housing; check for leaks; inspect housing vent	79.68%	77.86%	76.36%
6) Content Standard 6.0: Perform suspension and steering service and repair (A4)	60.01%	62.94%	63.36%
1) Performance Standard 6.1: Prepare vehicle for general suspension and steering systems service	76.69%	76.72%	78.88%
6.1.2 Disable and enable supplemental restraint system (SRS)	76.69%	76.72%	78.88%
2) Performance Standard 6.2: Perform steering systems service and repair	66.14%	69.47%	74.42%
6.2.4 Identify and inspect various suspension system components	66.14%	69.47%	74.42%
3) Performance Standard 6.3: Investigate wheel alignment conditions	51.79%	56.11%	50.00%

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6.3.2 Perform prealignment inspection and measure vehicle ride height, perform necessary action	51.79%	56.11%	50.00%
4) Performance Standard 6.4: Perform wheel and tire service and repair	55.55%	59.05%	63.57%
6.4.1 Inspect tire condition; identify tire wear patterns; check for correct size and application (load and speed ratings) and adjust air pressure; determine necessary action	60.76%	65.27%	71.06%
6.4.3 Dismount, inspect, and remount tire on wheel; balance wheel and tire assembly (static and dynamic)	51.79%	54.96%	--
6.4.4 Dismount, inspect, and remount tire on wheel equipped with tire pressure monitoring system sensor	52.59%	52.29%	63.18%
6.4.5 Balance wheel and tire assembly.	--	--	53.49%
6.4.6 Repair tire according to industry standards	41.43%	45.04%	--
6.4.8 Determine necessary action to remedy tire air loss.	--	--	51.55%
5) Performance Standard 6.5: Related Suspension and Steering Service	--	--	61.21%
6.5.1 Inspect rack and pinion steering gear inner tie rod ends (sockets) and bellows boots.	--	--	70.93%
6.5.2 Inspect power steering fluid level and condition.	--	--	73.64%
6.5.4 Identify proper fluid type per manufacturer specification.	--	--	81.91%
6.5.6 Remove, inspect, replace, and/or adjust power steering pump drive belt.	--	--	53.88%
6.5.8 Inspect pitman arm, relay (center link/intermediate) rod, idler arm, mountings, and steering linkage damper.	--	--	38.28%
6.5.10 Inspect upper and lower control arms, bushings, and shafts.	--	--	71.71%
6.5.13 Inspect upper and lower ball joints (with or without wear indicators).	--	--	65.70%
6.5.18 Inspect front strut bearing and mount.	--	--	56.59%
7) Content Standard 7.0: Analyze brake systems for service and repair (A5)	63.95%	66.43%	70.05%
1) Performance Standard 7.1: Demonstrate knowledge of general brake systems	56.25%	57.63%	57.49%
7.1.2 Describe procedure for performing a road test to check brake system operation, including the anti-lock brake system (ABS)	56.57%	55.34%	52.33%
7.1.3 Demonstrate knowledge of basic hydraulic principles	56.04%	59.16%	60.08%
2) Performance Standard 7.2: Perform hydraulic system service and repair	72.11%	72.90%	72.48%
7.2.6 Bleed and/or flush brake system	72.11%	72.90%	72.48%
3) Performance Standard 7.3: Perform drum brake service and repair	68.21%	69.92%	79.46%
7.3.1 Remove, clean, inspect, and measure brake drum diameter; determine necessary action	82.07%	80.92%	82.56%
7.3.4 Inspect wheel cylinders for leaks and proper operation; remove and replace as needed	69.32%	72.90%	79.84%
7.3.5 Preadjust brake shoes and parking brake; install brake drums or drum/hub assemblies, wheel bearings; make final checks and adjustments	48.61%	50.76%	50.39%
7.3.6 Install wheel and torque lug nuts to proper specifications	70.52%	72.52%	92.25%

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4) Performance Standard 7.4: Perform disc brake service and repair	70.92%	75.03%	72.48%
7.4.1 Remove and clean caliper assembly; inspect for leaks and damage/wear to caliper housing; determine necessary action	66.93%	69.85%	63.57%
7.4.2 Clean, inspect and lubricate clipper mounting and slides/pins for proper operation wear, and damage; determine necessary action	77.89%	79.39%	79.65%
7.4.4 Lubricate and reinstall caliper, pads, and related hardware; seat pads and inspect for leaks	86.85%	89.69%	--
7.4.5 Clean and inspect rotor, measure rotor thickness, thickness variation, and lateral runout; determine necessary action	54.18%	63.74%	--
7.4.7 Lubricate and reinstall caliper, brake	--	--	90.31%
7.4.9 Clean and inspect rotor and mounting surface,	--	--	60.08%
7.4.10 Check brake pad wear indicator; determine necessary action	78.49%	79.39%	--
7.4.15 Check brake pad wear indicator.	--	--	74.03%
6) Performance Standard 7.6: Perform miscellaneous service and repair (wheel bearings, parking brakes, electrical, etc.)	50.73%	53.05%	55.62%
7.6.1 Remove, clean, inspect, repack, and install wheel bearings, races, seals; install hub and adjust bearings	41.24%	45.80%	48.06%
7.6.2 Check parking brake cables and components for wear, binding, and corrosion; clean, lubricate, adjust or replace as needed	69.72%	67.56%	63.18%
8) Content Standard 8.0: Analyze electrical/electronic system (A6)	47.32%	49.80%	53.41%
1) Performance Standard 8.1: Perform general electronic systems service	45.78%	48.70%	51.62%
8.1.1 Research applicable vehicle and service information vehicle service history, service precautions, and technical service bulletins	31.47%	43.13%	39.15%
8.1.2 Demonstrate knowledge of electrical/electronic series, parallel and series-parallel circuits using principles of electricity (Ohm's and Watt's Law)	49.00%	50.64%	51.68%
8.1.3 Use and interpret wiring diagrams to trace electrical/electronic circuits	70.72%	74.43%	71.51%
8.1.4 Demonstrate proper use of digital multimeter (DMM) when measuring source voltage, voltage drop (including grounds), current flow, and resistance	31.27%	33.78%	37.60%
8.1.5 Research the causes and effects from shorts, grounds, opens, and resistance problems in electrical/electronic circuits	27.09%	27.10%	37.02%
8.1.6 Check operations of electrical circuits with a test light	56.37%	59.35%	59.50%
2) Performance Standard 8.2: Perform battery service	56.44%	55.22%	65.31%
8.2.4 Inspect and clean battery; fill battery cells, clean battery cables, connectors, clamps, and hold-downs	60.36%	56.68%	--
8.2.5 Inspect and lean battery; fill battery cells, check battery cables, connectors, clamps, and hold-downs.	--	--	76.74%

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8.2.7 Identify high voltage circuits of electric or hybrid electric vehicle and related safety precautions	48.61%	52.29%	--
8.2.8 Identify safety precautions for high voltage systems on electric, hybrid-electric, and diesel vehicles.	--	--	53.88%
6) Performance Standard 8.6: Perform accessories service and repair	42.83%	48.28%	51.36%
8.6.1 Disable and enable the airbag system for vehicle service; verify indicator lamp operation	42.83%	48.28%	51.36%
10) Content Standard 10.0: Analyze engine performance (A8)	49.00%	50.10%	55.62%
2) Performance Standard 10.2: Analyze computerized engine controls	32.47%	30.34%	42.25%
10.2.1 Retrieve and record diagnostic trouble codes, OBD monitor status, and freeze frame data; clear codes when applicable	51.79%	51.15%	55.81%
10.2.2 Describe the importance of operating all OBDII monitors for repair verification	13.15%	9.54%	28.68%
3) Performance Standard 10.3: Perform fuel, air induction, and exhaust systems service and repair	65.74%	66.79%	66.67%
10.3.2 Inspect, service, or replace air filters, filter housing and intake duct work	65.74%	66.79%	66.67%
4) Performance Standard 10.4: Perform emissions control systems service and repair	65.34%	72.90%	71.32%
10.4.1 Demonstrate knowledge of basic emission control components	65.34%	72.90%	71.32%