



Automotive Technician Skill Standards Checklist

CERTIFICATION AREAS COMPLETED:

- ___ Core Abilities**
- ___ Automotive Servicing Basics**
- ___ Vehicle Maintenance **
- ___ Electrical/Electronics
- ___ Brake Systems
- ___ Suspension and Steering
- ___ Engine Performance
- ___ A minimum of 900 work hours.

Student Name _____

School District _____

YA Consortium _____

YA Coordinator _____

**High School Diploma/GED/HSED
Date Received** _____

Level One Requirements: All **areas,
plus a minimum of one additional area and
minimum of 450 work hours.

**Total Hours
Employed**

Company Name

Phone #

Instructions for the Worksite Mentor and Instructors

The Skill Standards Checklist is a list of competencies (tasks) to be achieved through mentoring at the worksite.

- Each competency has three levels.
- The worksite mentor should rate each competency as the student acquires and demonstrates the skill.
- A competency may be revisited and the score raised as the student becomes more proficient at the worksite.
- The mentor and the student should go over the checklist together on a regular basis (at a minimum every 9 weeks) to record progress and plan future steps to complete the required competencies.

Please sign this page if you have been a mentor, trainer or instructor of this student.

CERTIFICATION: I certify that this student has successfully completed the competencies required in my department.

_____ **Mentor/Trainer Signature** _____ Printed Name

_____ Department _____ Date Signed

_____ **Mentor/Trainer Signature** _____ Printed Name

_____ Department _____ Date Signed

_____ **Mentor/Trainer Signature** _____ Printed Name

_____ Department _____ Date Signed

_____ **Mentor/Trainer Signature** _____ Printed Name

_____ Department _____ Date Signed

_____ **Mentor/Trainer Signature** _____ Printed Name

_____ Department _____ Date Signed

_____ **Mentor/Trainer Signature** _____ Printed Name

_____ Department _____ Date Signed

_____ **Instructor Signature** _____ **Instructor Signature**

_____ Printed Name _____ Printed Name

_____ Date Signed _____ Date Signed

_____ **Instructor Signature** _____ **Instructor Signature**

_____ Printed Name _____ Printed Name

_____ Date Signed _____ Date Signed

Core Abilities

Required

Core abilities address broad knowledge, skills, and attitudes that go beyond the context of a specific course. Core abilities are not taught in specific lessons. These are the employability skills that are critical for success in the automotive industry.

RATING:

3 = Consistently displays this behavior

2 = Often displays this behavior

1 = Needs improvement/Rarely displays this behavior

	<u>Score</u>
1. Works productively (comments) _____ _____ _____	3 2 1
2. Learns effectively _____ _____ _____	3 2 1
3. Communicates clearly with supervisor and others _____ _____ _____	3 2 1
4. Works cooperatively with others _____ _____ _____	3 2 1
5. Acts responsibly _____ _____ _____	3 2 1
6. Thinks critically and creatively _____ _____ _____	3 2 1
7. Works as a team member _____ _____ _____	3 2 1

Total Score: _____ ÷ 7 = _____
(average)

AN AVERAGE OF TWO (2) IS REQUIRED ON THESE COMPETENCIES TO PASS THIS SECTION

Automotive Servicing Basics

RATING:

3 = Moderately Skilled - has performed job independently or with limited supervision during the training program, limited additional training may be required. (entry level skill competent)

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Follow Safety Procedures & Regulations

Score

*1. Follow safety procedures while using equipment	*3	2	1
*2. Employ steps to be taken in case of injury.	*3	2	1
*3. Use safety equipment such as gloves, goggles, ear plugs	*3	2	1
*4. Use appropriate method of disposing of waste	*3	2	1
*5. Refer to MSDS (Material Safety Data Sheet)	*3	2	1
*6. Follow safety rules involving flammable liquids	*3	2	1
*7. Follow lock-out and tag-out procedures. (Display written notification of inoperative equipment/unsafe vehicles.)	*3	2	1
*8. Participate in employee right to know meetings	*3	2	1
*9. Follow instructions on warning labels	*3	2	1
*10. Use fire safety equipment	*3	2	1
*11. Follow employer's policies and procedures	*3	2	1

Maintain Work Area

*12. Maintain shop manuals and/or electronic retrieval systems	*3	2	1
*13. Organize tools	*3	2	1
*14. Sweep work area	*3	2	1
*15. Put shop equipment away	*3	2	1
*16. Clean work bench	*3	2	1
*17. Dispose of old parts properly	*3	2	1

Acquire Parts

Score

*18. Collect necessary information. Locate and interpret vehicle and major component identification numbers (make, model, year, VIN, vehicle certification labels and calibration decals)	*3	2	1
*19. Convey information to parts person	*3	2	1
20. Check for price	3	2	1
21. Check for availability	3	2	1
*22. Confirm correct part	*3	2	1

Process Work Order

*23. Interpret repair order	*3	2	1
*24. Obtain information from customer	*3	2	1
*25. Relay information (concern, cause and correction) to customer	*3	2	1
*26. Write description (concern, cause and correction) of work performed	*3	2	1

Diagnose Customer Concern

*27. Verify customer complaint (concern)	*3	2	1
*28. Inspect component	*3	2	1
29. Determine appropriate test	3	2	1
*30. Discuss problems with other technicians	*3	2	1
*31. Discuss status with service manager/advisor	*3	2	1
*32. Research applicable vehicle and service information, such as suspension and steering system operation, vehicle service history, service precautions, and technical service bulletin	*3	2	1

of Items completed with a 1 or higher rating _____ (32 required)

of Items completed with a 3 rating _____ (29 required)

Note: all * items must be completed at a 3 rating

Comments: _____

Vehicle Maintenance

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Vehicle Maintenance/Engine Performance	<u>Score</u>		
*1. Change oil and filter	*3	2	1
*2. Lube suspension and steering system	*3	2	1
*3. Inspect exhaust system	*3	2	1
*4. Rotate tires (inspect, check and adjust tire air pressure)	*3	2	1
*5. Service wheel bearings	*3	2	1
*6. Replace air filter	*3	2	1
*7. Replace drive belts	*3	2	1
*8. Replace PCV valve	*3	2	1
*9. Replace fuel filter	*3	2	1
*10. Perform cooling system pressure tests; check coolant condition; freeze protection, inspect and test radiator, pressure cap, coolant recovery tank, and hoses; service or replace as needed	*3	2	1
11. Inspect and test thermostat, by-pass, and housing, verify engine operating temperature, replace as needed	3	2	1
*12. Inspect coolant; drain, flush and refill cooling system or on car recycling with recommended coolant and bleed air as required	*3	2	1
*13. Inspect and test mechanical/electrical fans, fan clutch, fan shroud/ducting, air dams; perform necessary action	*3	2	1

Items completed with a 1 or higher rating _____ (13 required)

Items completed with a 3 rating _____ (12 required)

Note: all * items must be completed at a 3 rating

Comments: _____

Electrical/Electronic Systems

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ELECTRICAL/ELECTRONIC SYSTEMS

General Electrical Systems Diagnosis

Score

*1. Demonstrate the proper use of a digital multimeter (DMM) during diagnosis of electrical circuit problems	*3	2	1
2. Measure source voltage and perform voltage drop tests in electrical/electronic circuit Using a digital multimeter (DMM); determine necessary action	3	2	1
3. Measure current flow in electrical/electronic circuits and components using an ammeter; determine necessary action	3	2	1
4. Check continuity and measure resistance in electrical/electronic circuits and components using an ohmmeter; determine necessary action	3	2	1
5. Check electrical circuits using fused jumper wires; determine necessary action	3	2	1
6. Locate shorts, grounds, opens, and high resistance problems in electrical/electronic circuits, determine needed repairs	3	2	1
7. Measure and diagnose the cause(s) of abnormal key-off battery drain; determine repairs	3	2	1
8. Inspect and test fusible links, circuit breakers, and fuses; determine necessary action	3	2	1
9. Inspect and test switches, connectors, relays and wires of electrical/electronic circuits; perform necessary action	3	2	1
10. Use wiring diagrams during diagnosis of electrical circuit problems	3	2	1
11. Diagnose electrical/electronic integrity for series, parallel and series-parallel circuits using principles of electricity (Ohm's Law)	3	2	1
12. Repair wiring harness connectors	3	2	1
13. Perform solder repair of electrical wiring	3	2	1

Lighting Systems Diagnosis and Repair

14. Inspect, replace, and aim headlights and bulbs	3	2	1
15. Inspect and diagnose incorrect turn signal or hazard light operation; perform necessary action	3	2	1
16. Diagnose the cause of brighter than normal, intermittent, dim or no light operation; determine necessary action	3	2	1

Battery Diagnosis and Service	<u>Score</u>		
17. Maintain or restore electronic memory functions	3	2	1
*18. Perform battery state-of-charge test; determine necessary action	*3	2	1
*19. Perform slow/fast battery charge	*3	2	1
*20. Inspect and clean battery, cables, connectors, clamps, and hold-downs; repair or replace as needed	*3	2	1
*21. Start a vehicle using jumper cables and a battery or auxiliary power supply according to manufacturers specifications	*3	2	1
*22. Perform battery capacity (load, high-rate discharge) test; determine necessary action	*3	2	1
 Starting System Diagnosis and Repair			
23. Inspect and test starter relays and solenoids; determine necessary action	3	2	1
24. Remove, bench test and/or replace/reinstall starter	3	2	1
25. Perform starter current draw and circuit voltage drop test; determine necessary action	3	2	1
26. Inspect, test and repair or replace switches, connectors, and wires of starter control circuits; determine necessary action	3	2	1
27. Differentiate between electrical and engine mechanical problems that cause a slow crank or no-crank condition	3	2	1
 Charging System Diagnosis and Repair			
28. Perform charging system output test; determine necessary action	3	2	1
29. Remove, inspect, and replace/reinstall generator (alternator)	3	2	1
*30. Inspect and adjust generator (alternator) drive belts; pulleys and tensioners: check pulley and belt alignment	*3	2	1
31. Perform charging circuit voltage drop tests; determine necessary action	3	2	1
32. Diagnose charging system problems that cause an undercharge, a no-charge or an overcharge condition	3	2	1
 Gauges, Warning Devices and Driver Information Systems Diagnosis and Repair			
33. Inspect and test gauges and gauge sending units for cause of intermittent, high, low or no gauge readings, determine necessary action	3	2	1
34. Inspect and test connectors, wires, and printed circuit boards of gauge circuits; determine necessary action	3	2	1
35. Diagnose the cause of incorrect operation of warning devices and other driver information systems; determine necessary action	3	2	1
36. Inspect and test sensors, sending units, connectors, and wires of electronic digital instrument circuits; determine necessary action	3	2	1

Horn and Wiper/Washer Diagnosis and Repair

- 37. Diagnose incorrect horn(s) operation; determine necessary action 3 2 1
- 38. Diagnose incorrect wiper operation; diagnose the cause of wiper speed control and park problems; determine necessary action 3 2 1
- 39. Diagnose incorrect windshield washer operation; determine necessary action 3 2 1

Accessories Diagnosis and Repair

- 40. Diagnose incorrect operation of motor-driven accessory circuits; determine necessary action 3 2 1
- 41. Diagnose incorrect heated glass operation; determine necessary action 3 2 1
- 42. Diagnose incorrect electric lock operation; determine necessary action 3 2 1
- 43. Diagnose incorrect operation of cruise control systems; determine necessary action 3 2 1
- 44. Diagnose supplemental restraint system (SRS) problems; determine necessary action (Note: Disarm and enable the airbag system for vehicle service) 3 2 1
- 45. Diagnose radio static and weak, intermittent, or no radio reception; determine necessary action 3 2 1
- 46. Diagnose body electronic system circuits using a scan tool; determine necessary action 3 2 1
- *47. Check for module communication errors using a scan tool (proper connection procedures) *3 2 1
- 48. Diagnose the cause of false, intermittent, or no operation of anti-theft system 3 2 1

of Items completed with a 1 or higher rating _____ (48 required)

of Items completed with a 2 or higher rating _____ (34 required)

Note: all * items must be completed at a 3 rating

Comments: _____

Brake Systems

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BRAKES

General Brake Systems Diagnosis

Score

1. Identify and interpret brake system concern; determine necessary action	3	2	1
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Hydraulic System Diagnosis and Repair

2. Diagnose pressure concerns in the brake system using hydraulic principles (Paschal's Law)	3	2	1
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3. Measure and adjust pedal height (pushrod adjustment)	3	2	1
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*4. Select, handle, store and install brake fluids to proper level	*3	2	1
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5. Bleed (manual, pressure vacuum or surge) brake system; flush as needed	3	2	1
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*6. Inspect brake lines/flexible hoses and fittings for leaks, dents, kinks, rust, cracks or wear, tighten loose fittings and supports; determine necessary action	*3	2	1
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7. Check master cylinder for internal and external leaks and proper operation; determine necessary action	3	2	1
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8. Remove, bench bleed and replace master cylinder	3	2	1
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9. Fabricate and install brake lines (double flare or ISO types); replace hoses, fittings and supports as needed	3	2	1
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10. Inspect, test and replace metering (hold-off) proportioning (balance), pressure differential and combination valves	3	2	1
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11. Inspect, test, replace and adjust height sensing (load) proportioning valve	3	2	1
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12. Inspect, test and replace components of brake warning light system	3	2	1
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13. Diagnose poor stopping, pulling or dragging, or pedal pulsation problems; determine necessary action	3	2	1
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Drum Brake Diagnosis and Repair

*14. Remove, clean (using proper safety procedures), inspect and measure brake drums; service or replace as needed	*3	2	1
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*15. Refinish brake drum	*3	2	1
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*16. Remove, clean and inspect brake shoes, springs, pins, clips, levers, adjusters/self-adjusters, other related brake hardware and backing support plates; lubricate and reassemble	*3	2	1
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Drum Brake Diagnosis and Repair (continued)	<u>Score</u>		
*17. Remove and reinstall wheel cylinders	*3	2	1
*18. Pre-adjust brake shoes and parking brake before installing brake drums or drum/hub assemblies and wheel bearings	*3	2	1
Disc Brake Diagnosis and Repair			
*19. Remove caliper assembly from mountings; clean and inspect for leaks and damage to caliper housing; determine necessary action	*3	2	1
20. Clean and inspect caliper mounting and slides for wear and damage; determine necessary action	3	2	1
21. Clean, inspect and measure rotor; measure rotor with a dial indicator and a micrometer; follow manufacturer's recommendations in determining the need to machine or replace	3	2	1
*22. Remove, clean and inspect pads and retaining hardware; determine necessary action, then reassemble, lubricate and reinstall caliper, pads and related hardware seat pads, and inspect for leaks	*3	2	1
*23. Remove, refinish and reinstall rotor according to manufacturer's recommendation	*3	2	1
24. Adjust calipers with integrated parking brake system	3	2	1
*25. Road test vehicle with mentor prior to delivery of vehicle to customer; verify repairs	*3	2	1
*26. Reinstall wheel, torque lug nuts and make final checks and adjustments	*3	2	1
Miscellaneous Brake (Wheel Bearings, Parking Brakes, Electrical, Etc.) Diagnosis and Repair			
27. Replace wheel bearing and race	3	2	1
28. Inspect and replace wheel studs	3	2	1
29. Remove and reinstall sealed wheel bearings assembly	3	2	1
30. Remove, clean, inspect, repack and reinstall wheel bearings and replace seals; reinstall hub and adjust wheel bearings	3	2	1
*31. Check parking brake cables and components for proper operation, wear, rusting, binding and corrosion; clean, lubricate and replace as needed	*3	2	1
32. Check operation of parking brake indicator light system; determine necessary action	3	2	1
33. Check operation of stop light system; determine necessary action	3	2	1
34. Diagnose wheel bearing noises, wheel shimmy and vibration problems; determine necessary action	3	2	1
BRAKES			
Power Assist Units Diagnosis and Repair			
35. Test pedal free travel with and without engine running; check power assist operation	3	2	1
36. Check vacuum supply (manifold or auxiliary pump) to vacuum-type power booster	3	2	1
37. Inspect the vacuum-type power booster unit for vacuum leaks; inspect the check valve for proper operation; determine necessary action	3	2	1

Anti-lock Brake System**Score**

38. Identify and inspect anti-lock brake system (ABS) components; verify proper operation	3	2	1
39. Diagnose poor stopping, wheel lock-up, abnormal pedal feel or pulsation, and noise concerns caused by the anti-lock brake system (ABS); determine necessary action	3	2	1
40. Diagnose anti-lock brake system (ABS) electronic control(s) and components using self-diagnosis and/or recommended test equipment; determine necessary action	3	2	1
*41. Depressurize high pressure components of the anti-lock brake system (ABS) following manufacturer's recommended safety procedures	*3	2	1
42. Bleed the anti-lock brake system's (ABS) front and rear hydraulic circuits following manufacturer's procedures	3	2	1
43. Remove and install anti-lock brake system (ABS) electrical/electronic and hydraulic components	3	2	1
44. Test, diagnose and service ABS speed sensors, toothed ring (tone wheel), and circuits using a graphing multimeter (GMM)/digital storage oscilloscope (DSO) (includes output signal, resistance, shorts to voltage/ground, and frequency data).	3	2	1
45. Identify traction control system components	3	2	1

of Items completed with a 1 or higher rating _____ (45 required)

of Items completed with a 2 or higher rating _____ (32 required)

Note: all * items must be completed at a 3 rating

Comments: _____

Suspension and Steering

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SUSPENSION AND STEERING

Miscellaneous Services

Score

*1. Inspect and replace shock absorbers	*3	2	1
*2. Remove, inspect, service, or replace front and rear wheel bearings	*3	2	1
3. Test and diagnose components of electronically controlled suspension systems using a scan tool; determine necessary action	3	2	1
4. Inspect, service, and replace drive axle shaft, yokes, boots and universal/CV joints	3	2	1

Wheel and Tire Diagnosis and Repair

*5. Measure wheel, tire, axle, and hub runout; determine necessary action	*3	2	1
*6. Balance wheel and tire assembly (static and dynamic)	*3	2	1
*7. Dismount, inspect, repair, and remount tire on wheel	*3	2	1
*8. Inspect and repair tire	*3	2	1

Steering Systems Diagnosis and Repair

*9. Disable supplemental restraint system (SRS) in accordance with manufacturer's procedures	*3	2	1
10. Remove and replace steering wheel; center/time supplemental restraint system (SRS) coil in accordance with manufacturer's procedures	3	2	1
11. Perform pre-alignment inspection; perform necessary action	3	2	1
12. Inspect and replace pitman arm, relay (centerlink/intermediate) rod, idler arm and mountings, and steering linkage damper	3	2	1
13. Inspect, replace, and adjust tie rod ends (sockets), tie rod sleeves, and clamps	3	2	1
14. Remove and replace manual or power rack and pinion steering gear; inspect mounting bushings and brackets	3	2	1
15. Inspect and replace manual or power rack and pinion steering gear inner tie rod ends (sockets) and bellows boots	3	2	1
*16. Inspect manual and power steering fluid levels and condition	*3	2	1

Front Suspensions	<u>Score</u>		
17. Remove, inspect, and replace upper and lower control arms, bushings, shafts, and rebound bumpers	3	2	1
18. Remove, inspect, replace, and adjust strut (compression/tension) rods and bushings	3	2	1
19. Remove, inspect, and replace upper and lower ball joints on short and long arm suspension systems	3	2	1
20. Remove, inspect, and replace steering knuckle assemblies	3	2	1
21. Remove, inspect, and replace short and long arm suspension system coil springs and spring insulators	3	2	1
22. Remove, inspect, replace, and adjust suspension system torsion bars; inspect mounts	3	2	1
23. Remove, inspect, and replace stabilizer bar bushings, brackets and links	3	2	1
24. Remove, inspect and replace MacPherson strut cartridge or assembly, strut coil spring, insulators and upper strut bearing mount	3	2	1
 Rear Suspensions			
25. Remove, inspect and replace coil springs and spring insulators	3	2	1
26. Remove, inspect and replace MacPherson strut cartridge or assembly, strut coil spring and insulators (silencers)	3	2	1
27. Remove, inspect and replace leaf springs, leaf spring insulators (silencers), shackles, brackets, bushings, and mounts	3	2	1
 Wheel and Tire Alignment Diagnosis, Adjustment and Repair			
28. Measure vehicle riding height; determine necessary action	3	2	1
29. Check and adjust front and rear wheel camber; determine necessary action	3	2	1
30. Check and adjust caster; determine necessary action	3	2	1
31. Check front and/or rear wheel toe; adjust as needed	3	2	1
32. Center steering wheel	3	2	1
33. Check toe-out-on-turns (turning radius); determine necessary action	3	2	1
34. Check SAI (steering axis inclination) and included angle; determine necessary action	3	2	1
35. Check rear wheel thrust angle; determine necessary action	3	2	1
36. Check for front wheel setback; determine necessary action	3	2	1
37. Check front cradle (sub-frame) alignment; determine necessary action	3	2	1
38. Diagnose vehicle wandering, drifting, pulling, hard steering, bump steering, memory steering, torque steering and steering return problems; determine necessary action	3	2	1
*39. Diagnose tire wear patterns; determine needed repairs	*3	2	1
*40. Diagnose wheel and tire vibration/shimmy and noise problems; determine necessary action	*3	2	1
41. Diagnose tire pull (lead) problem; determine necessary action	3	2	1

SUSPENSION AND STEERING

Score

Steering Systems Diagnosis and Repair

*42. Remove, inspect, replace and adjust power steering pump belt	*3	2	1
43. Diagnose power steering fluid leakage; determine necessary action	3	2	1
44. Inspect and replace power steering hoses and fittings	3	2	1
45. Flush, fill and bleed power steering system	3	2	1
46. Remove, inspect and replace power steering pump pulley; check alignment	3	2	1
47. Remove and reinstall power steering pump	3	2	1
48. Inspect and replace steering shaft universal joint(s), flexible coupling(s), collapsible column, lock cylinder mechanism and steering wheel; perform necessary action	3	2	1
49. Test and diagnose components of electronically-controlled steering systems	3	2	1
50. Diagnose power rack and pinion steering gear vibration, looseness and hard steering problems; determine necessary action	3	2	1
51. Diagnose steering column noises, looseness and binding problems (including tilt mechanisms); determine necessary action	3	2	1
52. Diagnose power non-rack and pinion steering gear binding, uneven turning effort, looseness, hard steering, and fluid leakage concerns; determine necessary action	3	2	1

Suspension Systems Diagnosis and Repair
Front Suspensions

53. Diagnose short and long arm suspension system noises, body sway and uneven riding height problems; determine necessary action	3	2	1
54. Diagnose MacPherson strut suspension system noises, body sway and uneven riding height problems; determine necessary action	3	2	1
55. Identify and interpret suspension and steering concern; determine necessary action	3	2	1
56. Differentiate between steering and suspension concerns using principles of steering geometry (caster, camber, toe, etc.)	3	2	1

of Items completed with a 1 or higher rating _____ (56 required)

of Items completed with a 2 or higher rating _____ (39 required)

Note: all * items must be completed at a 3 rating

Comments: _____

Engine Performance

RATING:

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ENGINE PERFORMANCE

General Engine Diagnosis

	<u>Score</u>		
1. Diagnose the cause of unusual engine noise or vibration problems; determine needed repairs	3	2	1
2. Diagnose the cause of unusual exhaust color, odor and sound; determine necessary action	3	2	1
3. Diagnose engine mechanical, electrical, electronic, fuel and ignition problems with an ignition oscilloscope and engine analyzer; determine necessary action	3	2	1
*4. Inspect engine assembly for fuel, oil, coolant levels, and leaks; determine necessary action	*3	2	1
5. Using manufacturer's diagnostic routines, interpret and verify complaint/concern; determine necessary action	3	2	1
6. Perform engine absolute (vacuum/boost) manifold pressure tests; determine necessary action	3	2	1
7. Perform cylinder power balance test; determine necessary action	3	2	1
*8. Perform cylinder compression test; determine necessary action	*3	2	1
9. Perform cylinder leakage test; determine necessary action	3	2	1

Computerized Engine Controls Diagnosis and Repair

10. Adjust valves on engines with mechanical or hydraulic lifters	3	2	1
11. Verify correct camshaft timing, determine necessary action	3	2	1
12. Obtain and interpret digital multimeter (DMM) readings	3	2	1
*13. Locate and interpret vehicle and major component identification numbers (VIN, vehicle certification labels and calibration decals.)	*3	2	1
14. Inspect and test power and ground circuits and connections; service or replace as needed	3	2	1
15. Inspect and test mechanical/electrical fans, fan clutch, fan shroud/ducting air dams, and fan control devices; service or replace as needed	3	2	1
16. Assist with diagnosis of emissions or driveability problems resulting from failure of computerized engine controls with stored diagnostic trouble codes (DTC's): retrieve and record	3	2	1
17. Practice recommended precautions when handling static sensitive devices	3	2	1
18. Access and use (ESI) Electronic Service Information	3	2	1

Computerized Engine Controls Diagnosis and Repair (continued)	<u>Score</u>		
19. Inspect and test ignition primary circuit wiring and solid state components; perform necessary action	3	2	1
Ignition System Diagnosis and Repair			
20. Diagnose ignition system related problems such as no-starting, hard starting, engine misfire, poor driveability, spark knock, power loss, poor mileage, and emissions concerns on vehicles with electronic ignition (distributorless) (EI) systems and/or electronic distributor ignitions (DI) systems; determine necessary action	3	2	1
Positive Crankcase Ventilation			
21. Diagnose oil leaks emissions and driveability problems resulting from failure of the positive crankcase ventilation (PCV) system	3	2	1
Exhaust Gas Recirculation			
22. Diagnose emissions and driveability problems caused by failure of the exhaust gas recirculation (EGR) system	3	2	1
Exhaust Gas Treatment			
23. Diagnose emissions and driveability problems resulting from failure of secondary air injection and catalytic converter systems	3	2	1
Evaporative Emissions Controls			
24. Diagnose emissions and driveability problems resulting from failure of evaporative emissions control system	3	2	1
Ignition System Diagnosis and Repair			
25. Inspect and test distributor; service as needed	3	2	1
26. Inspect and test ignition system secondary circuit wiring and components; replace as needed	3	2	1
27. Inspect and test ignition coil(s); replace as needed	3	2	1
28. Check and adjust (where applicable) ignition system timing and timing advance/retard	3	2	1
29. Inspect and test ignition wiring harness and connectors; replace as needed	3	2	1
30. Inspect and test ignition system pick-up sensor or triggering devices; replace as needed	3	2	1
31. Inspect and test ignition control module; replace as needed	3	2	1
Fuel, Air Induction and Exhaust Systems Diagnosis and Repair			
32. Inspect and test fuel pressure regulation system and components of injection type fuel systems; adjust or replace as necessary	3	2	1
33. Inspect and test fuel injectors; clean or replace	3	2	1
34. Remove, clean and reinstall throttle body; adjust related linkages	3	2	1
35. Diagnose hot or cold no-starting, hard starting, poor driveability, incorrect idle speed, poor idle, flooding, hesitation, surging, engine misfire, power loss, stalling, poor mileage, dieseling and emissions problems on vehicles with injection-type fuel systems; determine needed action	3	2	1
36. Inspect fuel tank and fuel cap; inspect and replace fuel lines, fittings and hoses	3	2	1

Fuel, Air Induction and Exhaust Systems Diagnosis and Repair (continued)	<u>Score</u>		
37. Check fuel for contaminants and quality	3	2	1
38. Inspect and test mechanical and electrical fuel pumps and pump control systems for pressure, regulation and volume; perform necessary action	3	2	1
39. Inspect and test cold enrichment system components; adjust or replace as needed	3	2	1
40. Inspect throttle body mounting plates, air induction and filtration system, intake manifold and gaskets; clean or replace as needed	3	2	1
41. Check/adjust idle speed and fuel mixture where applicable	3	2	1
42. Remove, inspect and test vacuum and electrical components and connections of fuel system; repair or replace as needed	3	2	1
43. Inspect the exhaust manifold, exhaust pipes, muffler(s), catalytic converter(s), resonator(s), tail pipes and heat shield(s); perform necessary action	3	2	1
44. Perform exhaust system back-pressure test; determine necessary action	3	2	1

Emissions Control Systems Diagnosis and Repair

Positive Crankcase Ventilation

45. Inspect and test positive crankcase ventilation (PCV) filter/breather cup, valve, tubes, orifices and hoses; service or replace as needed	3	2	1
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Exhaust Gas Recirculation

46. Inspect, test, service and replace components of the EGR system, including EGR tubing, exhaust passages, vacuum/pressure controls, filters and hoses; perform necessary action	3	2	1
47. Inspect and test electrical/electronic sensors, controls and wiring of exhaust gas recirculation (EGR) systems; perform necessary action	3	2	1

Exhaust Gas Treatment

48. Inspect and test mechanical components of air injection systems; service or replace as needed	3	2	1
49. Inspect and test electrical/electronically-operated components and circuits of air injection systems; replace as needed	3	2	1
50. Inspect and test components of catalytic converter systems; replace as needed	3	2	1

Intake Air Temperature Controls

51. Inspect and test components of inlet air temperature control systems; replace as needed	3	2	1
52. Inspect and test components and hoses of evaporative emissions control systems; replace as needed	3	2	1

Items completed with a 1 or higher rating _____ (52 required)

Items completed with a 2 or higher rating _____ (31 required)

Note: all * items must be completed at a 3 rating

