

Introduction to Automotive Service (2016): Grades 9, 10, 11, 12

Adopted 2016

Understand Automotive Technology Careers 1.00

ST-G-1. Identify and demonstrate knowledge of careers in Automotive Technology [ST-G-1](#)

ST-G-2. Demonstrate knowledge of ASE certifications [ST-G-2](#)

ST-G-3. Demonstrate knowledge of NATEF accreditation [ST-G-3](#)

Understand Shop and Personal Safety 2.00

ST-A-1. Identify general shop safety rules and procedures. [ST-A-1](#)

ST-A-2. Utilize safe procedures for handling of tools and equipment. [ST-A-2](#)

ST-A-3. Identify and use proper placement of floor jacks and jack stands. [ST-A-3](#)

ST-A-4. Identify and use proper procedures for safe lift operation. [ST-A-4](#)

ST-A-5. Utilize proper ventilation procedures for working within the lab/shop area. [ST-A-5](#)

ST-A-6. Identify marked safety areas. [ST-A-6](#)

ST-A-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 fire safety equipment. [ST-A-7](#)

ST-A-8. Identify the location and use of eye wash stations. [ST-A-8](#)

ST-A-9. Identify the location of the posted evacuation routes. [ST-A-9](#)

ST-A-10. Comply with the required use of safety glasses, ear protection, gloves, and shoes during lab/shop activities. [ST-A-10](#)

ST-A-11. Identify and wear appropriate clothing for lab/shop activities. [ST-A-11](#)

ST-A-12. Secure hair and jewelry for lab/shop activities. [ST-A-12](#)

	ST-A-13. Demonstrate awareness of the safety aspects of supplemental restraint systems (SRS), electronic brake control systems, and hybrid vehicle high voltage circuits. ST-A-13
	ST-A-14. Demonstrate awareness of the safety aspects of high voltage circuits (such as high intensity discharge (HID) lamps, ignition systems, injection systems, etc.). ST-A-14
	ST-A-15. Locate and demonstrate knowledge of material safety data sheets (MSDS). ST-A-15
Understand Cleaners and Lubricants 3.00	Demonstrate safe handling, storage and use of appropriate cleaners.
	Demonstrate safe handling, storage and use of appropriate lubricants.
Understand Use of Tools and Equipment 4.00	ST-B-1. Identify tools and their usage in automotive applications. ST-B-1
	ST-B-2. Identify standard and metric designation. ST-B-2
	ST-B-3. Demonstrate safe handling and use of appropriate tools. ST-B-3
	ST-B-4. Demonstrate proper cleaning, storage, and maintenance of tools and equipment. ST-B-4
	ST-B-5. Demonstrate proper use of precision measuring tools (i.e. micrometer, dial-indicator, dial-caliper). ST-B-5
Understand Vehicle Preparation 5.00	ST-C-1. Identify information needed and the service requested on a repair order. ST-C-1
	ST-C-2. Identify purpose and demonstrate proper use of fender covers, mats. ST-C-2
	ST-C-3. Demonstrate use of the three C's (concern, cause, and correction). ST-C-3
	ST-C-4. Review vehicle service history. ST-C-4
	ST-C-5. Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction. ST-C-5
Understand Engine Service 6.00	I-A-1. Research applicable vehicle and service information, vehicle service history, service precautions, and technical service bulletins. I-A-1
	I-A-2. Verify operation of the instrument panel engine warning indicators. I-A-2
	I-A-7. Identify hybrid vehicle internal combustion engine service precautions. I-A-7

	I-C-1. Perform cooling system pressure and dye tests to identify leaks; check coolant condition and level; inspect and test radiator, pressure cap, coolant recovery tank, and heater core and galley plugs; determine necessary action. I-C-1
	I-C-5. Perform engine oil and filter change. I-C-5
Understand Automatic Transmission/Transaxle Service 7.00	II-A-1. Research applicable vehicle and service information, fluid type, vehicle service history, service precautions, and technical service bulletins. II-A-1
	II-A-2. Check fluid level in a transmission or a transaxle equipped with a dipstick. II-A-2
	II-A-3. Check fluid level in a transmission or a transaxle not equipped with a dipstick. II-A-3
	II-A-4. Check transmission fluid condition; check for leaks. II-A-4
	ASE-B-5. Visually inspect condition of transmission cooling system, lines, and fittings. ASE-B-5
Understand Manual Drive Train & Axle Service 8.00	III-A-1. Research applicable vehicle and service information, fluid type, vehicle service history, service precautions, and technical service bulletins. III-A-1
	III-A-3. Check fluid condition; check for leaks. III-A-3
	III-B-1. Check and adjust clutch master cylinder fluid level III-B-1
	III-B-2. Check for system leaks; clutch III-B-2
	III-E-2. Check and adjust differential housing fluid level. III-E-2
Understand Suspension & Steering Service 9.00	IV-A-1. Research applicable vehicle and service information, fluid type, vehicle service history, service precautions, and technical service bulletins. IV-A-1
	IV-B-2. Determine proper power steering fluid type; inspect fluid level and condition. IV-B-2
	IV-B-22. Identify hybrid vehicle power steering system electrical circuits and safety precautions IV-B-22
	IV-D-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. IV-D-1
	IV-D-2. Rotate tires according to manufacturer's recommendations. IV-D-2
	IV-D-5. Inspect tire and wheel assembly for air loss; perform necessary action. IV-D-5

ASE-D-12. Identify front suspension system noises, handling, ride height, and ride quality concerns; disable air suspension system. [ASE-D-12](#)

ASE-D-26. Identify rear suspension system noises, handling, and ride height concerns; disable air suspension system. [ASE-D-26](#)

ASE-D-18. Inspect front steering knuckle/spindle assemblies and steering arms. [ASE-D-18](#)

ASE-D-36. Inspect rear knuckle/spindle assembly. [ASE-D-36](#)

Understand Brake Service [10.00](#)

V-A-1. Research applicable vehicle and service information, fluid type, vehicle service history, service precautions, and technical service bulletins. [V-A-1](#)

V-A-3. Install wheel and torque lug nuts. [V-A-3](#)

V-B-4. Select, handle, store, and fill brake fluids to proper level. [V-B-4](#)

V-F-4. Check operation of brake stop light system. [V-F-4](#)

Understand Electrical/Electronic System Service [11.00](#)

VI-A-1. Research applicable vehicle and service information, vehicle service history, service precautions, and technical service bulletins. [VI-A-1](#)

VI-B-3. Maintain or restore electronic memory functions. [VI-B-3](#)

VI-B-4. Inspect and clean battery; fill battery cells; check battery cables, connectors, clamps, and hold-downs. [VI-B-4](#)

VI-B-6. Jump-start vehicle using jumper cables and a booster battery or an auxiliary power supply. [VI-B-6](#)

VI-B-7. Identify high-voltage circuits of electric or hybrid electric vehicle and related safety precautions. [VI-B-7](#)

VI-E-1. Inspect interior and exterior lamps and sockets including headlights and auxiliary lights (fog lights/driving lights); replace as needed. [VI-E-1](#)

VI-E-3. Identify system voltage and safety precautions associated with high-intensity discharge headlights. [VI-E-3](#)

VI-F-4. Verify operation of instrument panel gauges and warning/indicator lights; reset maintenance indicators. [VI-F-4](#)

VI-F-5. Verify windshield wiper and washer operation; replace wiper blades. [VI-F-5](#)

ASE-F-19. Inspect lenses; determine needed repairs. [ASE-F-19](#)

Understand Heating & Air Conditioning

VII-A-1. Research applicable vehicle and service information, vehicle service history, service precautions, and technical service bulletins. [VII-A-1](#)

Service 12.00	VII-B-2. Identify hybrid vehicle A/C system electrical circuits and the service/safety precautions. VII-B-2
	ASE-G-6. Inspect and clean evaporator drains ASE-G-6
	ASE-G-2. Visually check A/C components for signs of leaks. ASE-G-2
Understand Engine Performance Service 13.00	VIII-A-1. Research applicable vehicle and service information, vehicle service history, service precautions, and technical service bulletins. VIII-A-1 VIII-C-2. Inspect, service, or replace air filters, filter housings, and intake duct work. VIII-C-2 VIII-C-3. Inspect integrity of the exhaust manifold, exhaust pipes, muffler(s), catalytic converter(s), resonator(s), tail pipe(s), and heat shields; determine necessary action. VIII-C-3 VIII-C-5. Check and refill diesel exhaust fluid (DEF). VIII-C-5 ASE-A-21. Inspect canister, lines/hoses, mechanical and electrical components of the evaporative emissions control system (EVAP). ASE-A-21
Preparing Vehicle for Customer 14.00	ST-D-1. Ensure vehicle is prepared to return to customer per school/company policy. (floor mats, steering wheel cover, etc.) ST-D-1
Personal Standards 15.00	ST-E-1. Reports to work daily on time; able to take directions and motivated to accomplish the task at hand. ST-E-1 ST-E-2. Dresses appropriately and uses language and manners suitable for the workplace. ST-E-2 ST-E-3. Maintains appropriate personal hygiene. ST-E-3 ST-E-4. Meets and maintains employment eligibility criteria, such as drug/alcohol-free status, clean driving record, etc. ST-E-4 ST-E-5. Demonstrates honesty, integrity, and reliability. ST-E-5
Work Habits/Ethic 16.00	ST-F-1. Complies with workplace policies/laws. ST-F-1 ST-F-2. Contributes to the success of the team, assists others and requests help when needed. ST-F-2 ST-F-3. Works well with all customers and coworkers. ST-F-3 ST-F-4. Negotiates solutions to interpersonal and workplace conflicts. ST-F-4 ST-F-5. Contributes ideas and initiative. ST-F-5

ST-F-6. Follows directions. ST-F-6

ST-F-7. Communicates (written and verbal) effectively with customers and coworkers. ST-F-7

ST-F-8. Reads and interprets workplace documents; writes clearly and concisely. ST-F-8

ST-F-9. Analyzes and resolves problems that arise in completing assigned tasks. ST-F-9

ST-F-10. Organizes and implements a productive plan of work. ST-F-10

ST-F-11. Uses scientific, technical, engineering and mathematics principles and reasoning to accomplish assigned tasks. ST-F-11

ST-F-12. Identifies and address the needs of all customers, providing helpful, courteous and knowledgeable service and advice as needed. ST-F-12
