North Carolina CTE

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
	A-12. Secure hair and jewelry for lab/shop activities. ST-A-12

Skip to main content

	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

Skip to main content

	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 dip-stick. II-A-2
	II-A-3. Check fluid level in a transmission or a transaxle not equipped with a dip-stick. 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
	)-5. Inspect tire and wheel assembly for air loss; perform necessary action. IV-D-5

Skip to main content

	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
Un Air	Skip to main content **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
	F-5. Contributes ideas and initiative. ST-F-5

Skip to main content

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