

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

Adopted 2016

Understand Engine Service 1.00

I-A-4. Install engine covers using gaskets, seals, and sealers as required. I-A-4

I-A-6. Perform common fastener and thread repair, to include: remove broken bolt, restore internal and external threads, and repair internal threads with thread insert. I-A-6

I-C-3. Remove, inspect, and replace thermostat and gasket/seal. I-C-3

Understand Automatic Transmission/Transaxle Service 2.00

II-B-1. Inspect, adjust, and replace external manual valve shift linkage, transmission range sensor/switch, and park/neutral position switch. II-B-1

Understand Manual Drive Train & Axle Service 3.00

ASE-C-3. Inspect, adjust, and replace transmission/transaxle external shifter assembly, shift linkages, brackets, bushings/grommets, pivots, and levers. ASE-C-3

ASE-C-4. Inspect and replace external seals. ASE-C-4

ASE-C-8. Inspect, service, and replace drive shaft center support bearings ASE-C-8

ASE-C-14. Inspect, adjust, and repair transfer case manual shifting mechanisms, bushings, mounts, levers, and brackets. ASE-C-14

Understand Suspension & Steering Service 4.00

IV-B-6. Inspect and replace power steering hoses and fittings. IV-B-6

IV-B-20. Inspect, remove, and replace shock absorbers; inspect mounts and bushings. IV-B-20

IV-B-23. Describe the function of the power steering pressure switch. IV-B-23

IV-D-3. Dismount, inspect, and remount tire on wheel; balance wheel and tire assembly (static and dynamic). IV-D-3

IV-D-4. Dismount, inspect, and remount tire on wheel equipped with tire pressure monitoring system sensor. IV-D-4

IV-D-6. Repair tire using internal patch. [IV-D-6](#)

IV-D-7. Identify and test tire pressure monitoring systems (indirect and direct) for operation; verify operation of instrument panel lamps. [IV-D-7](#)

IV-D-8. Demonstrate knowledge of steps required to remove and replace sensors in a tire pressure monitoring system. [IV-D-8](#)

ASE-D-5. Remove and replace power steering pump; inspect pump mounting and attaching brackets; remove and replace power steering pump pulley; transfer related components. [ASE-D-5](#)

Understand Brake Service [5.00](#)

V-A-2. Describe procedure for performing a road test to check brake system operation, including an anti-lock brake system (ABS). [V-A-2](#)

V-B-2. Check master cylinder for external leaks and proper operation. [V-B-2](#)

V-B-6. Bleed and/or flush brake system. [V-B-6](#)

V-C-1. Remove, clean, inspect, and measure brake drum diameter; determine necessary action. [V-C-1](#)

V-C-2. Refinish brake drum and measure final drum diameter; compare with specifications. [V-C-2](#)

V-C-3. Remove, clean, and inspect brake shoes, springs, pins, clips, levers, adjusters/self-adjusters, other related brake hardware, and backing support plates; lubricate and reassemble. [V-C-3](#)

V-C-4. Inspect wheel cylinders for leaks and proper operation; remove and replace as needed. [V-C-4](#)

V-C-5. Pre-adjust brake shoes and parking brake; install brake drums or drum/hub assemblies and wheel bearings; make final checks and adjustments. [V-C-5](#)

V-D-1. Remove and clean caliper assembly; inspect for leaks and damage/wear to caliper housing; determine necessary action. [V-D-1](#)

V-D-2. Clean and inspect caliper mounting and slides/pins for proper operation, wear, and damage; determine necessary action. [V-D-2](#)

V-D-3. Remove, inspect, and replace pads and retaining hardware; determine necessary action. [V-D-3](#)

V-D-4. Lubricate and reinstall caliper, pads, and related hardware; seat pads and inspect for leaks. [V-D-4](#)

V-D-5. Clean and inspect rotor, measure rotor thickness, thickness variation, and lateral runout; determine necessary action. [V-D-5](#)

V-D-6. Remove and reinstall rotor. [V-D-6](#)

V-D-7. Refinish rotor on vehicle; measure final rotor thickness and compare with specifications. [V-D-7](#)

V-D-8. Refinish rotor off vehicle; measure final rotor thickness and compare with specifications. [V-D-8](#)

V-D-9. Retract and re-adjust caliper piston on an integral parking brake system. [V-D-9](#)

V-D-11. Describe importance of operating vehicle to burnish/break-in replacement brake pads according to manufacturer's recommendations. [V-D-11](#)

V-F-1. Remove, clean, inspect, repack, and install wheel bearings; replace seals; install hub and adjust bearings. [V-F-1](#)

ASE-E-1. Check for poor stopping, pulling, dragging, noises, high or low pedal, and hard or spongy pedal. [ASE-E-1](#)

ASE-E-32. Inspect the vacuum-type power booster unit for operation, and vacuum leaks; inspect the check valve for proper operation. [ASE-E-32](#)

ASE-E-33. Identify operation of electric-hydraulic assist system; check system for leaks and operation. [ASE-E-33](#)

ASE-E-34. Identify operation of hydro-boost assist system; check system for leaks and operation. [ASE-E-34](#)

**Understand
Electrical/Electronic
System Service** [6.00](#)

VI-A-10. Perform solder repair of electrical wiring. [VI-A-10](#)

VI-A-11. Replace electrical connectors and terminal ends. [VI-A-11](#)

VI-C-1. Perform starter current draw test; determine necessary action. [VI-C-1](#)

VI-C-3. Inspect and test starter relays and solenoids; determine necessary action. [VI-C-3](#)

VI-C-4. Remove and install starter in a vehicle. [VI-C-4](#)

VI-C-5. Inspect and test switches, connectors, and wires of starter control circuits; determine necessary action. [VI-C-5](#)

VI-F-2. Remove and reinstall door panel. [VI-F-2](#)

ASE-F-21. Verify horn operation; determine needed repairs [ASE-F-21](#)

**Understand Heating &
Air Conditioning
Service** [7.00](#)

VII-C-1. Inspect engine cooling and heater systems hoses; perform necessary action. [VII-C-1](#)

Understand Engine Performance Service 8.00	VIII-A-7. Remove and replace spark plugs; inspect secondary ignition components for wear and damage. VIII-A-7
	VIII-C-4. Inspect condition of exhaust system hangers, brackets, clamps, and heat shields; repair or replace as needed. VIII-C-4
Preparing Vehicle For Customer 9.00	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 10.00	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 11.00	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