

Automotive Technology 6th Edition

Chapter 17 – Preventative Maintenance and Service Procedures

Lesson Plan



CHAPTER SUMMARY:

1. Preventative maintenance, getting ready for service, and safety inspection
 2. Windshield wiper and washer fluid service
 3. Cabin filter replacement and air filter inspection/replacement
 4. Brake fluid inspection, engine oil inspection, and cooling system inspection
 5. Automatic transmission fluid check, power steering fluid, and accessory drive belt inspection
 6. Tire and wheel service, chassis lubrication, and differential fluid check
 7. Manual transmission/transaxle check, under vehicle inspection, and diesel exhaust fluid
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OBJECTIVES:

1. List the items or systems that require routine maintenance and describe when it should be performed.
 2. Describe the steps to follow when getting a vehicle ready for service.
 3. Explain the process to be followed in safety inspection, windshield wiper service, cabin filter replacement, and air filter inspection.
 4. Describe the brake fluid and engine oil inspection procedure.
 5. Explain the process of inspecting the cooling system.
 6. Explain how to check automatic transmission and power-steering fluids.
 7. Describe how to measure accessory belt tension.
 8. Describe how to check wheels and tires.
 9. Describe how to lubricate the chassis, check the differential and the manual transmission fluid, and perform under-vehicle inspection.
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RESOURCES: (All resources may be found at <http://www.jameshalderman.com>)

1. **Task Sheet ASE (A1-A-8) P-2:** Engine Mount Inspection
 2. **Task Sheet:** Safety Check
 3. **Task Sheet:** Windshield Wiper Blade Service
 4. **Task Sheet ASE (A8-A-4) P-2:** Engine Oil Dipstick Test
 5. **Task Sheet ASE (A1-D-10) P-1:** Engine Oil Change
 6. **Task Sheet ASE (A1-D-1) P-1:** Cooling System Inspection
 7. **Task Sheet ASE (A1-D-3) P-1:** Accessory Drive Belt Inspection
 8. **Task Sheet ASE (A4-F-3) P-1:** Tire Rotation
 9. **Task Sheet:** Lubrication Service
 10. **Task Sheet ASE (A8-A-4) P-2, (A1-A-4) P-1:** Fluids Check
 11. **Task Sheet ASE (A8-D-12) P-2:** Diesel Exhaust Fluid
 12. **Task Sheet ASE (A1-A-9) P-2:** Hybrid Electric Vehicle Safety Precautions
 13. Chapter PowerPoint
 14. Chapter Crossword Puzzle and Word Search
 15. Animations: Change Engine Oil and Remove and Replace Drive Belt
 16. Animations: Remove and Replace Cabin Air Filter and Vehicle Identification Numbers
 17. Videos: How to find your VIN (time 1:08) and Definition of Preventative Maintenance (time 1:08)
 18. Videos: Belt replacement (time 2:23) and Belt tensioner (time 3:59)
 19. Videos: Belt and pulley basics (time 10:58) and Idler pulley (time 2:50)
 20. Videos: Maintenance Light Reset (time 0:54)
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DEMO

ACTIVITIES:

1. **Task Sheet ASE (A1-A-8) P-2:** Have students complete Engine Mount Inspection Task Sheet.
 2. **Task Sheet:** Have students complete Safety Check Task Sheet.
 3. **Task Sheet:** Have students complete Windshield Wiper Blade Service Task Sheet.
 4. **Task Sheet ASE (A8-A-4) P-2:** Have student complete Engine Oil Dipstick Test Task Sheet.
 5. **Task Sheet ASE (A1-D-10) P-1:** Have students complete Engine Oil Change Task Sheet.
 6. **Task Sheet ASE (A1-D-1) P-1:** Have students complete Cooling System Inspection Task Sheet.
 7. **Task Sheet ASE (A1-D-3) P-1:** Have students complete Accessory Drive Belt Inspection Task Sheet.
 8. **Task Sheet ASE (A4-F-3) P-1:** Have students complete Tire Rotation Task Sheet.
 9. **Task Sheet:** Have students complete Lubrication Service Task Sheet.
 10. **Task Sheet ASE (A8-A-4) P-2, (A1-A-4) P-1:** Have students complete Fluids Check Task Sheet.
 11. **Task Sheet ASE (A8-D-12) P-2:** Have students complete Diesel Exhaust Fluid Task Sheet.
 12. **Task Sheet ASE (A1-A-9) P-2:** Have students complete Hybrid Electric Vehicle Safety Precautions Task Sheet.
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ASSIGNMENTS:

1. Chapter crossword and word search puzzles.
 2. Complete end of chapter 10 question quiz.
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CLASS DISCUSSION:

1. Review and group discussion chapter [Frequently Asked Questions](#) and [Tech Tips](#) sections.
 2. Review and group discussion of the five (5) chapter [Review Questions](#).
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NOTES AND EVALUATION:
