

# Automotive Technology 6<sup>th</sup> Edition

## Chapter 114 – Tire-Pressure Monitoring Systems

### Lesson Plan



#### **CHAPTER SUMMARY:**

1. Need for tire pressure monitoring, tread act, indirect TPMS, and direct TPMS
  2. TPMS pressure sensors, TPMS sensor operation, TPMS receiver, and TPMS diagnosis
  3. TPMS sensor activations, TPMS diagnostic tools, and sensor replacement options
  4. TPMS sensor relearn and TPMS sensor service tools
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#### **OBJECTIVES:**

1. Explain why a tire-pressure monitoring system (TPMS) is used.
  2. Discuss the TREAD Act.
  3. Explain indirect and direct TPMS.
  4. List the two types of TPMS pressure sensors.
  5. Discuss TPMS sensor operation and the TPMS receiver.
  6. Explain direct TPMS diagnosis and TPMS diagnostic tools.
  7. List replacement options for TPMS sensors.
  8. Describe how to relearn TPMS sensors and the tools needed to service a TPMS.
  9. This chapter will help prepare for ASE Suspension and Steering (A4) certification content area “E” (Wheel and Tire Diagnosis and Repair).
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**RESOURCES:** (All resources may be found at <http://www.jameshalderman.com>) Internet access required to hyperlink.

1. Task Sheet ASE (A4-F-1) P-1, (A4-F-8) P-1: Tire Inspection and Air Loss
  2. Task Sheet ASE (A4-F-2) P-2, (A4-F5) P-1: Tire Vibration and Pull Diagnosis
  3. Task Sheet ASE (A4-F-3) P-1: Tire Rotation
  4. Task Sheet ASE (A4-F-4) P-2: Tire, Wheel, Axle, and Hub Runout
  5. Task Sheet ASE (A4-F-6) P-1: Tire Replacement
  6. Task Sheet ASE (A4-F-9) P-1: Tire Repair
  7. Chapter PowerPoint
  8. Chapter Crossword Puzzle and Word Search
  9. Videos: [\(A4\) Suspension and Steering Videos](#)
  10. Animations: [\(A4\) Suspension and Steering Animations](#)
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#### **ACTIVITIES:**

1. Task Sheet ASE (A4-F-1) P-1, (A4-F-8) P-1: Have students complete Tire Inspection and Air Loss Task Sheet.
  2. Task Sheet ASE (A4-F-2) P-2, (A4-F5) P-1: Have students complete Tire Vibration and Pull Diagnosis Task Sheet.
  3. Task Sheet ASE (A4-F-3) P-1: Have students complete Tire Rotation Task Sheet.
  4. Task Sheet ASE (A4-F-4) P-2: Have students complete Tire, Wheel, Axle, and Hub Runout Task Sheet.
  5. Task Sheet ASE (A4-F-6) P-1: Have students complete Tire Replacement Task Sheet.
  6. Task Sheet ASE (A4-F-9) P-1: Have students complete Tire Repair 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:**

