

# Automotive Technology 7<sup>th</sup> Edition

## Chapter 126 – Four-Wheel Drive and All-Wheel Drive

### Lesson Plan



#### **CHAPTER SUMMARY:**

1. Four-Wheel-Drive Systems, All-Wheel Drive, Transfer Case, and Interaxle Differential
2. Four-Wheel-Drive Axles, and Transfer Case Service and Problem Diagnosis
3. Diagnosing and Servicing Locking Hubs

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#### **OBJECTIVES:**



1. Explain the operation of four-wheel-drive systems.
2. Explain the operation of all-wheel-drive systems.
3. Discuss front and rear differential axle ratios.
4. Describe the components of a transfer case.
5. Discuss the purpose and function of an interaxle differential.
6. Describe the different types of four-wheel-drive axles and drive axle ratios.
7. Describe the procedure to diagnose and service transfer cases.
8. Describe the procedure to diagnose and service locking hubs.

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#### **RESOURCES:** (All resources may be found at [jameshalderman.com](http://jameshalderman.com))



1. Task Sheet: Four-Wheel Drive Identification
2. Task Sheet: Tire Circumference & Final Drive Ratio Variations
3. Task Sheet: Inspect and Adjust Shifting Controls
4. Task Sheet: Transfer Case Replacement
5. Task Sheet: Transfer Case Disassembly and Reassembly
6. Task Sheet: Inspect Front Locking Hubs
7. Task Sheet: Transfer Case Lube Level/Leak Check
8. Task Sheet: Transfer Case Electrical Components
9. Crossword Puzzle and Word Search
10. Chapter PowerPoint
11. Videos: [\(A3\) Manual Drive Train Axles Videos](#)
12. Animations: [\(A3\) Manual Drive Train Axles Animations](#)

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#### **ACTIVITIES:**



1. Task Sheet: Four-Wheel Drive Identification
  2. Task Sheet: Tire Circumference & Final Drive Ratio Variations
  3. Task Sheet: Inspect and Adjust Shifting Controls
  4. Task Sheet: Transfer Case Replacement
  5. Task Sheet: Transfer Case Disassembly and Reassembly
  6. Task Sheet: Inspect Front Locking Hubs
  7. Task Sheet: Transfer Case Lube Level/Leak Check
  8. Task Sheet: Transfer Case Electrical Components
  9. Crossword Puzzle and Word Search
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#### **ASSIGNMENTS:**

1. Chapter crossword and word search puzzles from the website.
2. Complete end of chapter quiz from the textbook.
3. Complete multiple choice and short answer quizzes downloaded from the website.



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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:**

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