

# Manual Drivetrains and Axles 9<sup>th</sup> Edition

## Chapter 16 – Four-Wheel Drive and Diagnosis



### **CHAPTER SUMMARY:**

1. Four-Wheel Drive Problem Diagnosis, Visual Inspection, and Four-Wheel-Drive Diagnostic Procedures
  2. Check Electrical Components and Front Hub Removal and Replacement
  3. Transfer Case/Unit Removal and Replacement and Transfer Case/Unit Overhaul
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### **OBJECTIVES:**

1. Diagnose four-wheel-drive-related problems.
  2. Explain the procedure for diagnosing four-wheel drive and transfer case faults.
  3. Discuss how to test a four-wheel-drive vehicle using a scan tool.
  4. Explain the procedure for front hub removal and replacement.
  5. Explain the procedure for transfer case removal and overhaul.
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### **RESOURCES:** (All resources may be found at <http://www.jameshalderman.com>)

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

1. Task Sheet: Inspect and Adjust Shifting Controls
  2. Task Sheet: Transfer Case Replacement
  3. Task Sheet: Transfer Case Disassembly and Reassembly
  4. Task Sheet: Inspect Front Locking Hubs
  5. Task Sheet: Inspect Front Locking Hubs
  6. Task Sheet: Transfer Case Lube Level/Leak Check
  7. Task Sheet: Transfer Case Electrical Components
  8. Crossword Puzzle and Word Search
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### **ASSIGNMENTS:**

1. Chapter crossword and word search puzzles.
  2. Complete end of chapter 10 question quiz.
  3. Complete multiple choice and short answer quizzes downloaded from the website.
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## Chapter 16 – Four-Wheel Drive and Diagnosis



### **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:**

