

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

## Chapter 4 – Clutch Diagnosis and Service



### **CHAPTER SUMMARY:**

1. Clutch Inspection, Clutch Problem Diagnosis, Clutch Symptom Guide, and Clutch Replacement
  2. Clutch Component Inspection, Clutch Installation, and Hydraulic Clutch Service
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### **OBJECTIVES:**

1. Discuss clutch pedal free travel and clutch fluid level.
  2. Explain the diagnosis of common clutch problems and recommend the proper repair procedures.
  3. Explain how to remove and replace a clutch assembly.
  4. Discuss the inspection of used clutch components to determine if they are usable.
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### **RESOURCES:** (All resources may be found at <http://www.jameshalderman.com>)

1. Task Sheet: Diagnose Clutch Concerns
  2. Task Sheet: Clutch Linkage Inspection
  3. Task Sheet: Inspect the Hydraulic Clutch
  4. Task Sheet: Inspect Clutch Components
  5. Task Sheet: Bleed Clutch Hydraulic System
  6. Task Sheet: Flywheel and Ring Gear Inspection
  7. Task Sheet: Flywheel Runout
  8. Task Sheet: Dual Mass Flywheel Inspection
  9. Chapter PowerPoint
  10. Crossword Puzzle and Word Search
  11. Videos: [\(A3\) Manual Drive Train Axles Videos](#)
  12. Animations: [\(A3\) Manual Drive Train Axles Animations](#)
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### **ACTIVITIES:**

1. Task Sheet: Diagnose Clutch Concerns
  2. Task Sheet: Clutch Linkage Inspection
  3. Task Sheet: Inspect the Hydraulic Clutch
  4. Task Sheet: Inspect Clutch Components
  5. Task Sheet: Bleed Clutch Hydraulic System
  6. Task Sheet: Flywheel and Ring Gear Inspection
  7. Task Sheet: Flywheel Runout
  8. Task Sheet: Dual Mass Flywheel Inspection
  9. 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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### **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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