**Automotive Technology 6th Edition**

**Chapter 131 –** **Four-Wheel Drive and All-Wheel Drive**

**Lesson Plan**

**CHAPTER SUMMARY:**

1. Four-wheel-drive systems, all-wheel drive, and front and rear differential ratios

2. Transfer case, interaxle differential, and four-wheel-drive axles

3. Transfer case service and problem diagnosis and diagnosis and servicing locking hubs

4. Transfer case service

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**OBJECTIVES:**

1. Explain the operation of four-wheel-drive and all-wheel-drive systems.

2. Describe the components of a transfer case.

3. Discuss the purpose and function of an interaxle differential.

4. Describe the different types of four-wheel-drive axles.

5. Describe the procedure to diagnose and service transfer cases and locking hubs

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**RESOURCES:** (All resources may be found at <http://www.jameshalderman.com>) Internet access required to hyperlink.

**1.** **Task Sheet ASE** **(A3-F-1) P-3**: Inspect and Adjust Shifting Controls

**2**. **Task Sheet ASE (A3-F-2) P-3**: Inspect Front Locking Hubs

**3**. **Task Sheet ASE (A3-A-2) P-1, (A3-F-3) P-3**: Transfer Case Lube Level Check

**4**. **Task Sheet ASE (A3-F-4) P-2, (A3-F-5) P-3**: Four-Wheel Drive Diagnosis

**5**. **Task Sheet ASE (A3-F-7) P-2**: Transfer Case Replacement

**6**. **Task Sheet ASE (A3-F-6) P-3**: Transfer Case Electrical Components

**7**. **Task Sheet ASE (A3-F-7) P-2**: Transfer Case Disassembly and Reassembly

8. Chapter PowerPoint

9. Chapter Crossword Puzzle and Word Search

10. Videos: [(A3) Manual Drive Train Axles Videos](https://jameshalderman.com/a3_vid_lib_page/)

11. Animations: [(A3) Manual Drive Train Axles Animations](https://jameshalderman.com/a3_anim_lib_page/)

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**ACTIVITIES:**

**1. Task Sheet ASE** **(A3-F-1) P-3**: Have students complete Inspect and Adjust Shifting Controls Task Sheet.

**2**. **Task Sheet ASE (A3-F-2) P-3**: Have students complete Inspect Front Locking Hubs Task Sheet.

**3**. **Task Sheet ASE (A3-A-2) P-1, (A3-F-3) P-3**: Have students complete Transfer Case Lube Level Check Task Sheet.

**4**. **Task Sheet ASE (A3-F-4) P-2, (A3-F-5) P-3**: Have students complete Four-Wheel Drive Diagnosis Task Sheet.

**5**. **Task Sheet ASE (A3-F-7) P-2**: Have students complete Transfer Case Replacement Task Sheet.

**6**. **Task Sheet ASE (A3-F-6) P-3**: Have students complete Transfer Case Electrical Components Task Sheet.

**7**. **Task Sheet ASE (A3-F-7) P-2**: Have students complete Transfer Case Disassembly and Reassembly 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:**

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