**Manual Drivetrains and Axles 9th Edition**

**Chapter 5 –** **Manual Transmissions Parts and Operation**

**CHAPTER SUMMARY:**

1. Purpose of Manual Transmissions, Construction, Reverse, Speed Hears, and Synchronizers

2. Five-Speed Transmission Torque Flow, Shift Mechanisms, and Manual Transmission Gears

3. Transmission Case and Bearing and Manual Transmission Lubrication

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**OBJECTIVES:**

1. Explain the construction of a manual transmission.

2. Discuss synchronizer operation.

3. Explain five-speed transmission torque flow.

4. Discuss shifter operation.

5. Explain the construction of manual transmission gears.

6. Discuss the purpose of transmission cases and bearings. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

1. Task Sheet: Manual Transmission/ Transaxle Identification

2. Chapter PowerPoint

3. Crossword Puzzle and Word Search

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

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

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**ACTIVITIES:**

1. Manual Transmission/ Transaxle Identification

2. 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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