

# Automotive Engines Theory and Servicing 10<sup>th</sup> Edition

## Chapter 26 – Valve and Seat Service

### Lesson Plan



#### **CHAPTER SUMMARY:**

1. Intake and Exhaust Valves, Valve Seats, Valve Fault Diagnosis, and Valve Springs
2. Valve Keepers and Rotators, Valve Reconditioning Procedure, and Valve Face Grinding
3. Valve Seat Reconditioning, Valve Guide Pilots, Valve Seat Grinding Stones, and Valve Seat Cutters
4. Valve Seat testing, Valve Seat Replacement, Valve Stem Height, and Installed Height
5. Valve Stem Seals and Installing the Valves

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#### **OBJECTIVES:**



1. Discuss intake and exhaust valves.
2. Describe valve seats and the valve fault diagnosis procedure.
3. Explain valve springs, keepers, and rotators.
4. Discuss the procedure for valve reconditioning, valve face grinding, and valve seat reconditioning.
5. Discuss valve guide pilots, valve seat grinding stones, and valve seat cutters.
6. Explain valve seat testing and replacement.
7. Discuss valve stem height and installed height.
8. Explain valve stem seals and describe the procedure of installing valves.

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



1. Task Sheet: Valve Spring Specifications and Measurements
2. Task Sheet: Valve Stem Seal Replacement
3. Task Sheet: Valve Seat Inspection and Measurement
4. Task Sheet: Valve Spring Assembled Height
5. Chapter PowerPoint
6. [Crossword Puzzle and Word Search \(A1\)](#)
7. [Videos: \(A1\) Engine Repair](#)
8. [Animations: \(A1\) Engine Repair](#)

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#### **ACTIVITIES:**



1. Task Sheet: Valve Spring Specifications and Measurements
2. Task Sheet: Valve Stem Seal Replacement
3. Task Sheet: Valve Seat Inspection and Measurement
4. Task Sheet: Valve Spring Assembled Height

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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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