

# Automotive Technology 6<sup>th</sup> Edition

## Chapter 34 – Engine Blocks

### Lesson Plan



#### **CHAPTER SUMMARY:**

1. Engine blocks
  2. Engine block service
  3. Block preparation for assembly
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#### **OBJECTIVES:**

1. Explain the construction of engine blocks.
  2. Explain the procedure for engine block service
  3. Explain block preparation for assembly.
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**RESOURCES:** (All resources may be found at <http://www.jameshalderman.com>)

1. **Task Sheet ASE (A1-A-2) P-1:** Cylinder Block Specification/Measurement
  2. **Task Sheet ASE (A1-C-3) P-2:** Engine Block Inspection
  3. **Task Sheet ASE (A1-C-4) P-2:** Cylinder Bore Measurement
  4. **Task Sheet ASE (A1-C-5) P-2:** Cylinder Bore Deglazing
  5. **Task Sheet ASE (A1-C-6) P-3:** Camshaft Bearing Inspection
  6. **Task Sheet ASE (A1-C-11) P-2:** Piston-to-Bore Clearance
  7. Chapter PowerPoint
  8. Chapter Crossword Puzzle and Word Search
  9. Animations: Cylinder Bore Wear Check, Displacement & Compression Ratio, and Piston to Bore Clearance
  10. Videos: See list at the end of the lesson plan.
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#### **ACTIVITIES:**

1. **Task Sheet ASE (A1-A-2) P-1:** Have students complete Cylinder Block Specification/Measurement Task Sheet.
  2. **Task Sheet ASE (A1-C-3) P-2:** Have students complete Engine Block Inspection Task Sheets.
  3. **Task Sheet ASE (A1-C-4) P-2:** Have students complete Cylinder Bore Measurement Task Sheet.
  4. **Task Sheet ASE (A1-C-5) P-2:** Have students complete Cylinder Bore Deglazing Task Sheet.
  5. **Task Sheet ASE (A1-C-6) P-3:** Have students complete Camshaft Bearing Inspection Task Sheet.
  6. **Task Sheet ASE (A1-C-11) P-2:** Have students complete Piston-to-Bore Clearance 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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**Videos:** (at <http://www.jameshalderman.com>)

Block honing (time 0:22)  
Ridge reaming (time 5:39)  
Using a bore scope (time 1:36)  
Cylinder hone (time 5:11)  
SBC machine work (time 23:46)  
Piston to deck clearance (time 6:25)  
Cylinder bore (time 1:56)  
Piston animation (time 0:56)  
Rotary engine animation (time 3:25)  
Engine assembly animation (time 3:12)  
V-8 engine (time 1:21)  
Ford EcoBoost Animation (time 2:41)  
Ford EcoBoost Animation (time 1:32)  
16-cylinder engine (time 0:44)  
Rotary engine failures (time 2:42)  
Rotary engine (time 5:17)  
Rotary engine construction (time 4:17)  
Rotary engine basics (time 3:07)  
How a Hybrid Engine Works (time 1:24)  
Car Engine Assembly and Operation (time 5:43)