

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

## Chapter 135

### Automatic Transmission/Transaxle Diagnosis and In-Vehicle Service

#### Lesson Plan

#### **CHAPTER SUMMARY:**



1. Transmission problem diagnosis, transmission fluid leak diagnosis, and in-vehicle service
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#### **OBJECTIVES:**



1. Explain the process of diagnosing transmission problems.
  2. Discuss the procedures for performing in-vehicle service.
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**RESOURCES:** (All resources may be found at <http://www.jameshalderman.com>)



1. Task Sheet ASE (A2-B-4) P-1: Service Automatic Transmission/Transaxle
  2. Task Sheet ASE (A2-A-3) P-1, (A2-A-4) P-1, (A2-A-5) P-1: Diagnose Fluid Loss
  3. Task Sheet ASE (A2-A-1) P-1, (A2-A-6) P-1: Pressure Test Automatic Transmission
  4. Task Sheet ASE (A2-A-8) P-2: Torque Converter Stall Test
  5. Task Sheet ASE (A2-A-9) P-3: Torque Converter Lock-Up Test
  6. Task Sheet ASE (A2-A-7) P-2: Noise and Vibration Diagnosis
  7. Task Sheet ASE (A2-A-10) P-1, (A2-A-11) P-1, (A2-B-3) P-1: Diagnose Electrical/Electronic Concerns
  8. Task Sheet ASE (A2-B-1) P-1: Inspect and Adjust Linkages
  9. Task Sheet ASE (A2-A-11) P-1: Electronic Transmission Scan Tool Diagnosis
  10. Task Sheet ASE (A2-B-5) P-2: Inspect and/or Replace Powertrain Mounts
  11. Chapter PowerPoint
  12. Chapter Crossword Puzzle and Word Search
  13. Animations: Check Fluid Level, No Dipstick and Stall Test
  14. Animations: Transmission Fluid Exchange and Transmission Pressure Test
  15. Videos: See list at the end of the lesson plan.
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#### **ACTIVITIES:**



1. Task Sheet ASE (A2-B-4) P-1: Have students complete Service Automatic Transmission/Transaxle Task Sheet.
  2. Task Sheet ASE (A2-A-3) P-1, (A2-A-4) P-1, (A2-A-5) P-1: Have students complete Diagnose Fluid Loss Task Sheet.
  3. Task Sheet ASE (A2-A-1) P-1, (A2-A-6) P-1: Have students complete Pressure Test Automatic Transmission Task Sheet.
  4. Task Sheet ASE (A2-A-8) P-2: Have students complete Torque Converter Stall Test Task Sheet.
  5. Task Sheet ASE (A2-A-9) P-3: Have students complete Torque Converter Lock-Up Test Task Sheet.
  6. Task Sheet ASE (A2-A-7) P-2: Have students complete Noise and Vibration Diagnosis Task Sheet.
  7. Task Sheet ASE (A2-A-10) P-1, (A2-A-11) P-1, (A2-B-3) P-1: Have students complete Diagnose Electrical/Electronic Concerns Task Sheet.
  8. Task Sheet ASE (A2-B-1) P-1: Have students complete Inspect and Adjust Linkages Task Sheet.
  9. Task Sheet ASE (A2-A-11) P-1: Have students complete Electronic Transmission Scan Tool Diagnosis Task Sheet.
  10. Task Sheet ASE (A2-B-5) P-2: Have students complete Inspect and/or Replace Powertrain Mounts Task Sheet.
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**Chapter 135**  
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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>)

Transmission diagnosis (time 2:55)	Engine and Transmission mount replace (time 29:43)
Transmission diagnosis (time 1:25)	Detent cable replacement (time 8:58)
Transmission diagnosis (time 4:37)	Transmission control solenoid replacement (time 7:12)
Harsh Shifting (time 4:04)	VSS (time 1:09)
Checking For Transmission Fluid Leaks (time 1:17)	Remove and replace a VSS (time 6:28)
Transmission Fluid Leak (time 3:36)	VSS (time 3:03)
Pressure and stall test (time 14:34)	Testing a 3 wire VSS (time 1:34)
Transmission noise diagnosis (time 2:43)	Testing a 2 wire VSS (time 1:44)
Converter lock-up test (time 0:47)	Transmission servicing (time 2:46)
Transmission Control Module check (time 1:26)	Transmission leak (time 2:25)
Transmission scanning part 1 (time 5:04)	Transmission solenoid pack leak (time 3:54)
Transmission scanning part 2 (time 5:49)	Line pressure (time 1:08)
Scanning gear ratio error (time 2:54)	Cooler line repair (time 3:06)
P0717 turbine speed sensor (time 6:59)	Shifter bushings (time 4:27)
Fluid level check (time 3:02)	Ford 5R55E valve body gaskets (time 14:25)
Fluid level check with no dipstick (time 1:11)	Line pressure test (time 1:29)
Fluid level check (time 2:02)	Transmission mount replace (time 1:48)