

## Eastern West Virginia Community and Technical College COURSE ASSESSMENT REPORT

<b>Course Title and Number:</b> ATT 226 Automatic Transmission and Transaxle (4 credits)	<b>Academic Term and Year of Assessment Activity</b> <b>(Ex: Fall, 2010)</b> Spring 2013
<b>Report Submitted By:</b> Doug Swick	<b>Number of Students Assessed:</b> 5 students completed assessment
<b>Date Reported Submitted:</b> April 22, 2014	<b>Number of Sections Included:</b> 1
<b>Course Delivery Format (list all modalities used in sections assessed. Ex: web based, VDL, traditional section, hybrid course, etc.):</b> lecture/lab course, traditional course delivery	

<b>Course Role in Curriculum</b>
<b>Provide a description of the role the course serves in the curriculum (i.e. general education requirement, program technical core, restricted elective, etc.) Note all as appropriate.</b>
ATT 226 is a technical core requirement (4 credits) for automotive students in both the certificate and associate degree programs. This course introduces students to basic fundamentals, technology, and service of automotive automatic transmissions and transaxles. Students learn to diagnose and to repair system components including transmissions, transaxles, torque converters and electronic controls.

<b>Assessment Methods</b>
<b>Provide a description of the assessment process used. Include description of instrument and performance standards in description. Note all methods.</b>
<p>The ATT 226 course assessment report focuses specifically on automatic transmission and transaxle mechanical principles, and the diagnostic and service skills. Lab based task sheets were used as the basic data collection instruments for this assessment. Eleven learning outcomes were assessed by analyzing results of classroom/lab observation based task sheets. The task sheets were completed for each student by directly observing the student performing each designated task. All task sheets are NATEF based for adherence to national automotive repair standards. The 11 learning outcomes were assessed through the application of 12 task sheets. In total, 159 scoring items were incorporated into this assessment report. Each item was weighted equally with a score of one point. Students could attain a total composite score of 159, a minimum composite score of 127 was necessary to meet the established performance standard of 80%. Scores were further analyzed in two broad categories:</p> <p>1) Automatic transmission and transaxle principles-minimum score 42 out of 53; and                  2) Automatic transmission and transaxle diagnosis and service skills- minimum score 85 out of 106</p> <p>The outcomes assessed are grouped into the 2 categories and are listed below:</p> <p><b>Automatic Transmission and Transaxle principles</b></p> <ul style="list-style-type: none"> <li>3. Identify and interpret transmission/transaxle concern; differentiate between engine performance and transmission/transaxle concerns; determine necessary action.</li> <li>5. Locate and interpret vehicle and major component identification numbers.</li> <li>26. Inspect converter flex plate, converter attaching bolts, converter pilot, converter pump drive surfaces, converter end play, and crankshaft pilot bore.</li> </ul> <p><b>Automatic Transmission and Transaxle diagnosis and service</b></p> <ul style="list-style-type: none"> <li>9. Perform lock-up converter system test; determine necessary action.</li> <li>10. Diagnose noise and vibration concerns; determine necessary action.</li> <li>12. Diagnose pressure concerns in a transmission using hydraulic principles (Pascal's Law).</li> <li>19. Service transmission; perform visual inspection; replace fluid and filters.</li> <li>20. Remove and reinstall transmission/transaxle and torque converter; inspect engine core plugs, rear crankshaft seal, dowel pin holes, and mating surfaces.</li> <li>21. Disassemble, clean, and inspect transmission/transaxle.</li> <li>22. Inspect, measure, clean, and replace valve body.</li> <li>24. Assemble transmission/transaxle.</li> </ul>

**Assessment Results**

**Provide a summary of results including tables/charts. Incorporate information from previous assessments as appropriate. Append additional pages if necessary. If appending, include notation in box to "See Attached."**

See Attachment for Task Sheets

**Automatic Transmission and Transaxle Principles: 80% of the students completed 42-53 of the 53 tasks correctly, meeting the minimum standard of 42 (i.e. 80% of the tasks).**

**Automatic Transmission and Transaxle Diagnosis and Service: 80% of the students completed 85-106 of the 106 tasks correctly, meeting the minimum standard of 85 (i.e. 80% of the tasks).**

Distribution of Scores for Outcomes and Composite Score per Task Sheet Analysis  
N=5

Student ID #	Principle Score (Standard: 42 out of 53)	Diagnosis Score (Standard 85 out of 106)	Composite Score (Standard 127 out of 159)
1	53	97	150
2	52	57	109
3	46	89	135
4	53	85	138
5	38	96	134
Total Sample for Points	242	424	666
% at Minimum Standard	80%	80%	80%

**Course Level Assessment Summary of Outcomes, Indicators and Results**

**Course Title and Number**

**Number of students in assessment sample = 5**

**Number of Sections in Assessment = 1**

**Add additional rows to table if necessary**

Learning Outcomes (Insert learning outcomes assessed during this cycle)	Indicator (Insert indicators used for each outcome: exam question, scoring rubric, etc. Be specific)	Percent of Correct Responses	Percent of Incorrect Responses	Performance Standard Met (80%)* (yes or no)
Composite Score	Total composite score: minimum of 127 out of 159 points for completed task sheets (Total points for sample=795, 666 answered correctly)	84%	16%	Yes
Outcome 1: Automatic Transmission and Transaxle Principles	Task Sheets for: Identify and interpret transmission/transaxle concern; differentiate between engine performance and transmission/transaxle concerns; determine necessary action Locate and interpret vehicle and major component identification numbers Inspect converter flex plate, converter attaching bolts, converter pilot, converter pump drive surfaces, converter end play, and crankshaft pilot bore Performance Standard: minimum of 42 out of 53 points Total points for sample=265; 242 answered correctly.	91%	9%	Yes
Outcome 2: Automatic Transmission and Transaxle Diagnosis and Service	Task Sheets for: Perform lock-up converter system test; determine necessary action Diagnose noise and vibration concerns; determine necessary action Diagnose pressure concerns in a	80%	10%	Yes

	<p>transmission using hydraulic principles (Pascal’s Law)                  Remove and reinstall transmission/transaxle and torque converter; inspect engine core plugs, rear crankshaft seal, dowel pin holes, and mating surfaces                  Disassemble, clean, and inspect transmission/transaxle                  Inspect, measure, clean and replace valve body                  Assemble transmission/transaxle                  Performance Standard: minimum of 85 out of 106 points.                  (Total points for sample=530; 424 answered correctly).</p>			
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\*Please note if using a different minimum performance standard.

<p><b>Conclusions and Action Plan</b>  <b>Provide a brief summary of conclusions derived based on analysis of data. Identify action plan for improvement or maintaining current performance levels. Append additional pages if necessary. If appending, include notation in box to “See Attached.”</b></p>
<p>Based on an analysis of the completed task sheets for the designated learning outcomes, the results indicate that the learning outcomes have been met successfully by those students completing the assessment activities. The sampling represents 100 % of the enrollment. Consequently, future assessments will need to consider the validity of the small sampling. The addition of transmission specialty tools facilitated an enhanced learning environment and educational opportunities.</p>

<p><b>Effective Date for Changes or Curriculum Proposal Submission to LOT (if recommended)</b></p>	<p><b>Proposed Date for Reassessment</b></p>

<p><b>Assessment Committee Approval                  (To be posted by Assessment Committee Chair)</b></p>	<p><b>LOT Review                  (To be posted by Assessment Committee Chair)</b></p>
<p><b>Date: 5-14-14 (SB-G)</b></p>	<p><b>Date: 5-19-14</b></p>