

**NORTH MONTCO TECHNICAL CAREER CENTER
1265 SUMNEYTOWN PIKE, LANSDALE, PA 19446**

Performance Evaluation/Assessment

Automotive Technology

NATEF Automatic Transmission & Transaxle

Standardized Integration Module (SIM)

Task 1: General Transmission and Transaxle Diagnosis

Hours: 41

Date: 9/01/2008

Exit Outcome/Terminal Performance Objective:

- Demonstrate the ability to perform performance tests, diagnose an automatic transmission/transaxle assembly.

Enabling Objectives:

- Explains basic automatic transmission/transaxle theory.
- Explains basic automatic transmission/transaxle operation.
- Explains steps to test and diagnose automatic transmission/transaxle problems.
- Identifies basic automatic transmission/transaxle components.
- Performs basic automatic transmission/transaxle tests and diagnostics.
- Locate correct diagnostic, repair, service & maintenance information using ShopKey.

Mastery: All hands-on tasks must be completed to 100% accuracy and to industry standards.

To achieve Mastery of this task, the student must:

1. Participate in a lecture, view either the PowerPoint presentation or video of the material.
2. Participate in a demonstration of the task.
3. Participate in a guided application of the task.
4. Practice the task without the instructor.
5. Complete task to 100% accuracy.
6. Demonstrate or practice the task with another student.

PA Academic Standards/Assessment Anchors/Eligible Content

Science

PA Academic Standard:

31.10.E Describe patterns of change in nature, physical and man made systems.

Assessment Anchor:

S11.A.1.1 Analyze and explain the nature of science in the search for understanding the natural world and its connection to technological systems

Eligible Content:

S11.A.1.1.4 Explain how specific scientific knowledge or technological design concepts solve practical problems

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Math

PA Academic Standard:

2.2.11.A Develop and use computation concepts, operations and procedures with real numbers in problem-solving situations.

2.2.11.B. Use estimation to solve problems for which an exact answer is not needed.

Assessment Anchor:

M11.A.2.1 Apply ratio and/or proportion in problem-solving situations.

M11.A.3.2 Use estimation strategies in problem-solving situations.

Eligible Content:

M11.A.2.1.1 Solve problems using operations with rational numbers including rates and percents (single and multi-step and multiple procedure operations) (e.g., distance, work and mixture problems, etc.).

M11.A.3.2.1 Use estimation to solve problems.

Language Arts

PA Academic Standard:

1.1.11.E Establish a reading vocabulary by identifying and correctly using new words acquired through the study of their relationships to other words.

1.1.11.F Understand the meaning of and apply key vocabulary across the various subject areas.

Assessment Anchor:

R11.A.1.1 Identify and apply the meaning of vocabulary.

R11.A.1.2 Identify and apply word recognition skills.

Eligible Content:

R11.A.1.1.1 Identify and/or apply meaning of multiple-meaning words used in text.

R11.A.1.1.2 Identify and/or apply a synonym or antonym of a word used in text.

R11.A.1.2.1 Identify how the meaning of a word is changed when an affix is added; identify the meaning of a word from the text with an affix.

R11.A.1.2.2 Define and/or apply how the meaning of words or phrases changes when using context clues given in explanatory sentences.

Social Studies

PA Academic Standard:

8.3.12.A Identify and evaluate the political and cultural contributions of individuals and groups to United States history from 1890 to Present.

Career Education & Work

PA Academic Standard:

13.4.11.B Analyze entrepreneurship as it relates to personal character traits.

SAFETY NOTICE: In addition to following all North Montco Technical Career Center Automotive Technology Program Safety and MSDS Policies, refer to the specific vehicle's manufacturer's shop manual for complete safety details when performing these tasks.

NOTE: *Safety is not an option!* Although this information is very thorough, it is general and does not fully cover all safety rules, procedures and hazards.

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Performance Evaluation

PERFORMANCE CRITERIA	Needs Practice	Satisfactory
Safety glasses must be worn at all times! Read all safety materials provided and observe all safety precautions demonstrated by your instructor		
Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction. P-1		
Identify and interpret transmission/transaxle concern; differentiate between engine performance & transmission/transaxle concerns; determine necessary action. P-1		
Research applicable vehicle and service information, such as, fluid type, service precautions, & technical service bulletins. P-1		
Locate and interpret vehicle and major component identification numbers. P-1		
Diagnose fluid loss and condition concerns; check fluid level in transmissions with and without dip-stick; determine necessary action. P-1		
Perform pressure tests (including vehicles equipped with electronic pressure control); determine necessary action. P-1		
Perform stall test; determine necessary action. P-3		
Perform lock-up converter system tests; determine necessary action. P-3		
Diagnose noise and vibration concerns; determine necessary action. P-2		
Diagnose transmission/transaxle gear reduction/multiplication concerns using driving, driven, and held member principles. P-1		
Diagnose pressure concerns in a transmission using hydraulic principles (Pascal's Law). P-2		
Diagnose electronic transmission/transaxle control systems using appropriate test equipment and service information. P-1		
Complete an Outline, Reading Grid, Summary and "Last-Word" Worksheet Packet for Chapters 1-10, 80, 57, 58, 63 and 64 from <i>Modern Automotive Technology</i>		
Score a 80% or better on <i>Modern Automotive Technology</i> chapter tests 1-10 & 80		
Score a 80% or better on <i>Modern Automotive Technology</i> chapter tests 57, 58, 63 and 64		
Score 80% or better on ASE Practice Test 4		
Score 80% or better on Math Intro Lessons 1-5 & Math Lessons 1, 2, 3, 5 and 6 Homework Sheets		