



**POWER PRODUCTS
GASOLINE ENGINE
MECHANIC
SKILLS STANDARDS
OD42401**

COMPETENCY-BASED EDUCATION: OKLAHOMA'S RECIPE FOR SUCCESS

BY THE INDUSTRY FOR THE INDUSTRY

Oklahoma's *CareerTech* system of competency-based education uses industry professionals and certification standards to identify the knowledge and abilities needed to master an occupation. This industry input provides the foundation for development of instructional materials that help prepare the comprehensively trained, highly skilled employees demanded by our workplace partners.

TOOLS FOR SUCCESS

CareerTech relies on three basic instructional components to deliver competency-based instruction: skills standards, curriculum materials, and competency assessments.

Skills standards provide the foundation for competency-based instruction in Oklahoma's *CareerTech* system. The skills standards outline the knowledge, skills, and abilities needed to perform related jobs within an industry. Skills standards are aligned with national skills standards; therefore, a student trained to the skills standards possesses technical skills that make him/her employable in both state and national job markets.

Curriculum materials contain information and activities that teach students the knowledge and skills outlined in the skills standards. In addition to complementing classroom instruction, curriculum resources provide supplemental activities to enhance learning and provide hands-on training experiences.

Competency Assessments test the student over material outlined in the skills standards and taught using the curriculum materials. When used with classroom performance evaluations, written competency assessments provide a means of measuring occupational readiness.

Although each of these components satisfy a unique purpose in competency-based education, they work together to reinforce the skills and abilities students need to gain employment and succeed on the job.

MEASURING SUCCESS

Written competency assessments are used to evaluate student performance. Results reports communicate competency assessment scores to students and provide a breakdown of assessment results by duty area. The results breakdown shows how well the student has mastered skills needed to perform major job functions and identifies areas of job responsibility that may require additional instruction and/or training.

Group analysis of student results also provides feedback to instructors seeking to improve the effectiveness of career and technology training. Performance patterns in individual duties indicate opportunities to evaluate training methods and customize instruction.

TRUE TO OUR PURPOSE

"Helping Oklahomans succeed in the workplace" defines the mission of Oklahoma *CareerTech* and its competency-based system of instruction. Skills standards, curriculum, and assessments that identify and reinforce industry expectations provide accountability for programs and assure *CareerTech*'s continued role in preparing skilled workers for a global job market

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**POWER PRODDUCTS
GASOLINE ENGINE MECHANIC
SKILLS STANDARDS
Frequency and Criticality Ratings**

Duty A: Perform Administrative Functions

Duty B: Perform Preventative Maintenance for Small Engines

Duty C: Maintain Engine Fuel Systems

Duty D: Maintain Charging and Starting Systems

Duty E: Maintain the Ignition System

Duty F: Overhaul Power Products' Gasoline Engines

Frequency: represents how often the task is performed on the job. Frequency rating scales vary for different occupations. The rating scale used in this publication is presented below:

- 1 = less than once a week
- 2 = at least once a week
- 3 = once or more a day

Criticality: denotes the level of consequence associated with performing a task incorrectly. The rating scale used in this publication is presented below:

- 1 = slight
- 2 = moderate
- 3 = extreme

DUTY A: Perform Administrative Functions

CODE	TASK	F/C
A.01	Complete customer work order form <ul style="list-style-type: none"> • Utilize appropriate parts identification media • Utilize appropriate service identification media • Communicate with customer and /or supervisor to determine service requested • Maintain work records to account for parts and labor 	3/2
A.02	Inspect equipment for safety component presence and functions <ul style="list-style-type: none"> • Product liability • Shop liability 	2/3
A.03	Prepare customer bill/receipt <ul style="list-style-type: none"> • Math skills 	3/2
A.04	Apply human relations skills in the power products repair shop	3/2

DUTY B: Perform Preventative Maintenance for Small Engines

CODE	TASK	F/C
B.01	Clean engine exterior and cooling fins	2/2
B.02	Service an air filter assembly	3/3

B.03	De-carbonize combustion chamber on a 4-cycle engine	2/2
B.04	Inspect and/or service ignition system	2/2
B.05	Service lubrication system	2/3
B.06	Adjust valves	2/2
B.07	Remove carbon deposits from exhaust ports and muffler of two-stroke engine	2/2
B.08	Service engine controls	2/2
B.09	Service fuel system	3/2

DUTY C: Maintain Engine Fuel Systems

CODE	TASK	F/C
C.01	Inspect/repair/replace fuel delivery system	3/2
C.02	Troubleshoot/service the carburetor	3/3
C.03	Check fuel pump output	1/2
C.04	Check/adjust governor	2/3
C.05	Prepare fuel system for storage	1/2
C.06	Prepare fuel system for operation after storage	2/2

DUTY D: Maintain Charging and Starting Systems

CODE	TASK	F/C
D.01	Service the battery	2/2
D.02	Inspect/troubleshoot/repair the electrical starter system	2/2
D.03	Inspect/troubleshoot/repair starter controls	2/2
D.04	Inspect/troubleshoot/repair the charging system	2/2
D.05	Service a rewind starter system	2/2
D.06	Prepare system for storage	1/1
D.07	Prepare system for operation after storage	1/2

DUTY E: Maintain the Ignition System

CODE	TASK	F/C
E.01	Inspect spark plugs; replace as necessary	3/2
E.02	Inspect/troubleshoot the ignition system; repair as necessary	2/2

DUTY F: Overhaul Power Products' Gasoline Engines

CODE	TASK	F/C
F.01	Disassemble engine	2/2
F.02	Examine internal engine parts for damage or wear – evaluate cost effectiveness of repair	2/3
F.03	Inspect/troubleshoot/repair valve train assembly on four-stroke cycle engine	2/2
F.04	Inspect reed valves on two-stroke cycle engine; replace as necessary	2/2
F.05	Inspect piston, ring, and rod assemblies; replace as necessary	2/3
F.06	Inspect/recondition or replace cylinders	1/2

F.07	Inspect/repair lubricating systems	1/3
F.08	Inspect/replace/repair crankshaft assemblies	1/3
F.09	Inspect and repair damaged threads	2/3
F.10	Assemble engine	2/3
F.11	Run-test engine/set to manufacturer's specification	3/3