NOCTI

Teacher Credential Blueprint

Automotive Technician

Code: 5362 / Version: 01

General Assessment Information

Blueprint Contents

Test Type: The Automotive Technician assessment is included in NOCTI's Teacher assessment battery. Teacher assessments measure an individual's technical knowledge and skills in a proctored proficiency examination format. These assessments are used in a large number of states as part of the teacher licensing and/or certification process, assessing competency in all aspects of a particular industry. NOCTI Teacher tests typically offer both a written and performance component that must be administered at a NOCTI-approved Area Test Center. Teacher assessments can be delivered in an online or paper/pencil format.

Revision Team: The assessment content is based on input from secondary, post-secondary, and business/industry representatives from the states of Idaho, Georgia, Kentucky, Maryland, and Michigan.

CIP Code

47.0604 - Automobile/Automotive Mechanics Technology/Technician

Learning that works for America CTE™

Career Cluster - Transportation, Distribution, and Logistics

O*NET™ in*it

49-3023.01 - Automotive Mechanics

Association for Career and Technical Education ACTE®

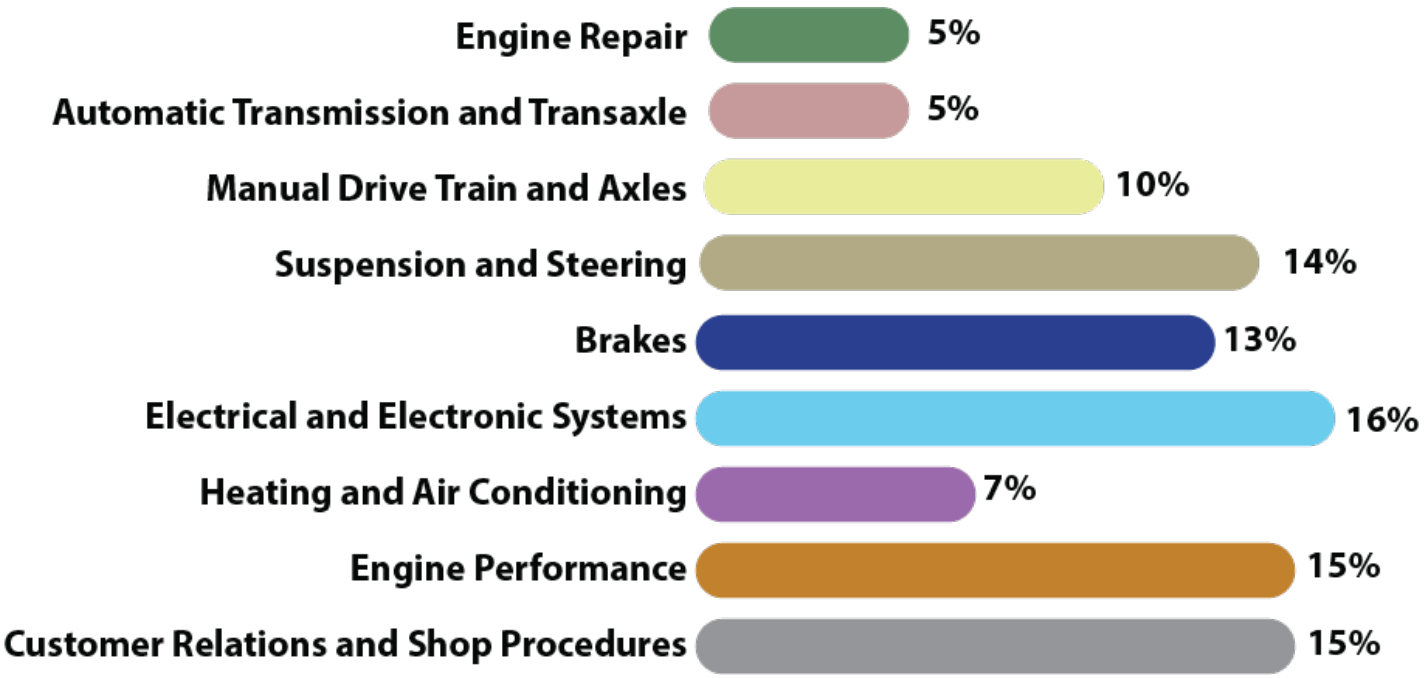
The Association for Career and Technical Education (ACTE), the leading professional organization for career and technical educators, commends all students who participate in career and technical education programs and choose to validate their educational attainment through rigorous technical assessments. In taking this assessment you demonstrate to your school, your parents and guardians, your future employers and yourself that you understand the concepts and knowledge needed to succeed in the workplace. Good Luck!

Written Assessment

NOCTI written assessments consist of questions to measure an individual's factual theoretical knowledge.

Administration Time: 3 hours
Number of Questions: 168
Number of Sessions: This assessment may be administered in one, two, or three sessions.

Areas Covered



Specific Standards and Competencies Included in this Assessment

Engine Repair
- Inspect and service general engine issues
- Inspect, test, and service lubrication and cooling systems

Automatic Transmission and Transaxle
- Check fluids on transmission/transaxle
- Perform in-vehicle transmission/transaxle inspections and service
- Describe and identify operational characteristics of transmission/transaxle for CVT and hybrids

Manual Drive Train and Axles
- Check fluid condition and service transmissions and transaxles
- Perform clutch master cylinder inspections and service
- Inspect and service manual transmission and transaxle issues
- Inspect and service drive shaft, half shafts, universal, and constant-velocity (CV) joints
- Inspect and service four-wheel drive and all-wheel drive systems

Suspension and Steering
- Perform related suspension and steering systems inspection and service
- Perform vehicle pre-alignment inspection and ride-height
- Inspect and service wheels and tires

Brakes
- Inspect and service hydraulic system
- Inspect and service drum brakes
- Inspect and service disc brakes
- Inspect and service power-assist units
- Inspect and service miscellaneous systems (e.g., wheel bearings, parking brakes, electrical)
- Identify and describe electronic brakes, traction, and stability control systems
- Describe housekeeping standards and procedures

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Specific Standards and Competencies (continued)

Electrical and Electronic Systems

- Inspect and service general electrical/electronic systems
- Inspect and service batteries
- Inspect and service starting systems
- Inspect and service charging systems
- Inspect and service lighting systems
- Inspect and service accessories

Heating and Air Conditioning

- Inspect and service refrigeration system components
- Inspect and service heating, ventilation, and engine cooling systems
- Inspect and service operating systems and related controls

Engine Performance

- Inspect and service general engine performance
- Identify and describe electronic engine controls
- Inspect and service fuel, air induction, and exhaust systems
- Inspect and service emissions control systems

Customer Relations and Shop Procedures

- Interpret and estimate repair and work orders
- Utilize vehicle service information
- Exhibit understanding of appropriate customer interactions
- Exhibit understanding of automotive, environmental, and hazardous materials
- Display understanding of safe work environment, shop procedures, and proper handling of customer vehicle

Sample Questions

When replacing the timing belt on a dual overhead cam engine, the technician needs to

A. remove the engine
B. lock the cams in place
C. replace the dual cam
D. re-torque the head bolts

To check fluid level on an automatic transmission equipped with a fluid level sensor instead of a dipstick, use a/an

A. inspection sight glass
B. pressure flow chart
C. approved flush machine
D. scan tool

Inspection of a hydraulic clutch system for leaks should include the

A. throw-out bearing adjustment
B. clutch master cylinder
C. clutch pedal free travel
D. automatic adjuster

A parallelogram steering linkage utilizes the pitman and idler arms to support the

A. strut rods
B. steering coupler
C. center link
D. track bar

For lateral runout, a technician should use a

A. tape measure
B. micrometer
C. dial indicator
D. linear caliper

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Sample Questions (continued)

A side load condition on a wheel bearing occurs when the vehicle is

A. cornering
B. in reverse
C. stationary
D. moving

Terminal voltage for a fully charged battery is

A. 12.0 volts
B. 12.2 volts
C. 12.4 volts
D. 12.6 volts

A gurgling sound from the dash in the area of the heater core could indicate

A. high coolant flow
B. high coolant temperature
C. low coolant temperature
D. low coolant level

Low compression in two adjacent cylinders is usually caused by a

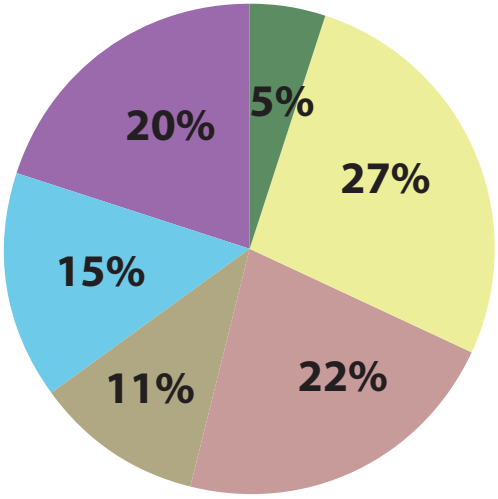
A. cracked engine block
B. cracked or broken ring
C. damaged head gasket
D. burnt valve

Greasy or oily rags should be stored in a/an

A. specified area of the shop
B. approved covered metal container
C. outside container
D. marked storage shelf

Performance Assessment

NOCTI performance assessments allow individuals to demonstrate their acquired skills by completing actual jobs using the tools, materials, machines, and equipment related to the technical area.



Administration Time: 2 hours and 40 minutes
Number of Jobs: 6

Areas Covered:

5% Identification of Parts
Participant will identify each part displayed on workbench and write the name beside the corresponding number.

27% Brakes: Disc Brake Assembly Service
Participant will measure and record lateral runout and rotor thickness, remove brake pads, set up lathe and cut, replace brake pads, record caliper mounting bolt torque specifications, remount caliper and torque caliper, and return vehicle to pre-job status.

22% Electrical/Electronic Systems: Test and Diagnose Battery, Starting, and Charging System
Participant will perform a source voltage test, battery load test, ground circuit voltage drop test, alternator output test, and record recommendations. Steps will require the participant to look up and record specifications throughout the diagnosis.

11% Engine Performance: Test Electronic Engine Control Component
Participant will identify trouble codes and give descriptions, use service information to identify and locate components related to trouble codes, inform evaluator of findings, and will leave codes when finished.

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Areas Covered (Continued):

15% Suspension and Steering: Tire Service and Balance
Participant will demonstrate the ability to dismount a tire from a wheel and mount a replacement tire on the wheel while correctly positioning the TPMS sensor. Steps will include inflating the tire to 28 psi maximum inflation balancing the tire and wheel assembly, and following safety standards.

20% Headlight Amperage Draw Test
Participant will find the fuse that controls low beam, measure and record source voltage, measure and record amperage, calculate and record the resistance, recommend required amperage fuse, notify evaluator, and reset the DVOM and remove the leads.

Sample Job

Suspension and Steering: Tire Service and Balance

Maximum Time: 20 minutes

Participant Activity: The participant will demonstrate the ability to dismount a tire from a wheel while positioning TPMS sensor, mount a replacement tire on the wheel while correctly positioning the TPMS sensor, inflate the tire to 28 psi, balance tire and wheel assembly, and notify the evaluator for inspection.

Automotive Technician