

MECHANIC STUDY GUIDE

Engine Tuneup/Performance

Automobile & Light Truck Repair

Listed below are a number of items and subjects which make up the mechanic certification test identified above. An individual's ability to pass the certification test will depend upon the amount of knowledge the person has concerning these items.

Computer Control & Sensor Basics - 24%

ROM (Read Only Memory)

Fault codes

Maintaining stoichiometric balance

Closed loop

Oxygen sensor diagnosis

Knock sensor function

Self diagnosis

Hall sensor pattern reading

Types of meters to use

Scan tool usage

TPS operation

Ignition Systems - 13%

Scope pattern diagnosis

Setting timing

No spark diagnosis

Spark plug voltage requirements

Carburetor & Fuel Injection - 10%

Injector pulse width

Fuel line replacement

E.F.I. principals

"Heavy float" symptoms

Types of injection systems

Performance Basics - 10%

Causes of detonation

Spark plug diagnosis

Dirty air cleaner symptoms

Causes of a lean mixture

Influences on performance

Diagnosis (starting system & misc.) - 18%

Engine timing

Slow cranking diagnosis

Circuit resistance checks

Engine vacuum

Catalytic converter

Cylinder leakage

Compression test

Emission Control Systems - 25%

EGR operation

Evaporative emission control system

Hydrocarbon levels

Oxides of nitrogen

O₂ sensor operation

Fuel vapor recovery system

Carbon monoxide levels

Exhaust analyzer readings

Engine timing & effect on emissions

Catalytic converter's purpose

SAMPLE QUESTION:

In automotive computers, this memory contains information that tailors the computer to the vehicle.

- A. Programmable Read Only Memory (PROM).
- B. Controllable Access Memory (CAM).
- C. Random Access Memory (RAM).
- D. None of the above.

ANSWER: A