

MECHANIC STUDY GUIDE

Engine Repair

Automobile and 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.

Engine Block Diagnosis & Repair - 12%

Using a bore gauge
Honing a newly bored cylinder
Engine bore diagnosis
Installing pistons in block
Cleaning and assembling

Cylinder Head/Valve Train Diagnosis & Repair - 21%

Intake valve deposits
Valve tappet clearance
Valve timing understanding
Valve tappet adjustment
Valve guide wear
Valve refacing
Valve spring diagnosis
Noisy lifter diagnosis
Valve seats

General Engine Diagnosis - 19%

Oil consumption
.001" cylinder leakage test
Compression test
Sludge in crankcase
Vacuum testing
Low oil pressure
Crankcase blow-by diagnosis
Spark plug diagnosis

Piston Diagnosis & Repair - 10%

Piston design
Ring groove diagnosis
Piston ring diagnosis

Crankshaft & Camshaft Diagnosis & Repair - 15%

Crankshaft end-play Journal taper diagnosis
Installing cam bearings
Camshaft diagnosis
Crankshaft diagnosis

Miscellaneous - 23%

Understanding measurements to Engine
Assembling procedures
Diagnosing coolant bubbling
Micrometer reading
Bolt head markings
Engine break-in
Water pump diagnosis
Turbocharger diagnosis
Engine R&R procedures
Basic carburetor diagnosis
Vibration/misfire diagnosis
Plastigage use

SAMPLE QUESTION:

A transverse mounted engine with front wheel drive must be removed from the car. All of the following are generally recommended EXCEPT:

- A. Removing the engine and transaxle as a unit.
- B. Disconnecting the speedometer cable.
- C. Disconnecting the half-shafts.
- D. Removing the differential gears.

ANSWER: D