Listed below are a number of items and subjects which make up the mechanic certification tests 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 Components - 24%
- Detroit blower rotor clearance adjustment
- Piston rings
- Piston ring grooves
- After cooling - benefits
- Bolt grade recognition
- Lube oil coolers
- Turbo charger operation
- Valve bridge function

### Diagnosis - 34%
- Turbo problem diagnosis
- Coolant in crankcase
- Smoke problem diagnosis
- Engine operating temperature
- Low oil pressure
- Engine tear-down diagnosis
- Blow-by
- Crankshaft diagnosis
- Engine Miss

### Lube & Fuel - 10%
- Direct injection
- Leaky fuel lines
- Restarting and engine that has run out of fuel
- Fuel Filters

### Miscellaneous - 20%
- Using a vacuum gauge
- Fuel shut-off solenoid
- Idle speed
- Detroit diesel R.P.M. setting
- Understanding 2-stroke, 4-stroke engines
- Valve seat width
- Valve lash adjustment
- Overheating

### Skills In Measuring - 12%
- Tools for measuring
- Plastigage reading
- Cylinder taper
- Reading a micrometer
- Crankshaft End-play

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**SAMPLE QUESTION:**
A diesel engine misses at all speeds and there is a puff of smoke when it misfires. What is the most likely cause of this problem?

A. Erratic governor action.
B. Stale fuel.
C. A miscalibrated pump.
D. A sticking nozzle.

**ANSWER:** D