Chapter 45

Engine Performance and Driveability

- List the most common cause of engine performance problems
- Describe symptoms of common problems
- Explain typical causes of engine performance problems
- Explain how to use a systematic approach to diagnosing engine performance problems
- Discuss safety procedures when working on a performance problem
Chapter 45
Engine Performance

1. A **SURGING** condition occurs where engine power fluctuates up and down.

2. **VAPOR LOCK** occurs when the fuel is overheated, forming air bubbles that upset air-fuel mixture.
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Engine Performance

Multiport injection

Air in
Injector
Fuel spray into intake port

Fuel in

Only air passes through throttle body and inlet to intake

Intake manifold
Intake valve
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Engine Performance

3. POOR FUEL ECONOMY is a condition causing the vehicle to use too much gasoline.

4. When the engine STALLS, it stops running.
5. A **VACUUM LEAK** is when outside air enters the engine intake manifold, bypassing the carburetor or throttle body.

6. A **BACKFIRING** condition is caused by the air-fuel mixture igniting in the intake manifold or exhaust system.
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Engine Performance

7. HESITATION is when the engine does not accelerate normally when the gas pedal is pressed.

8. MISFIRING is a performance problem resulting from one or more cylinders failing to fire.
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Ignition System Operation – Coil Firing
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Ignition System Operation – Coil Saturating
9. **DIESLING** occurs when the engine fails to shut off.

10. **PINGING** is a metallic tapping or light knocking sound, usually when the engine accelerates under load.
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