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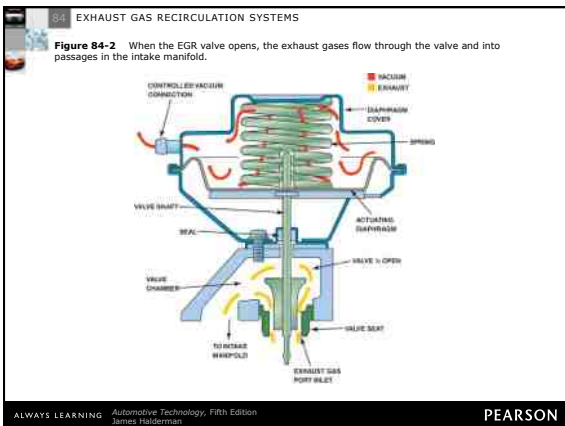
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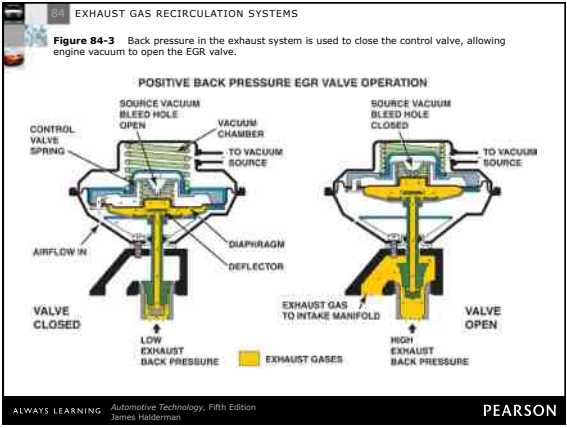
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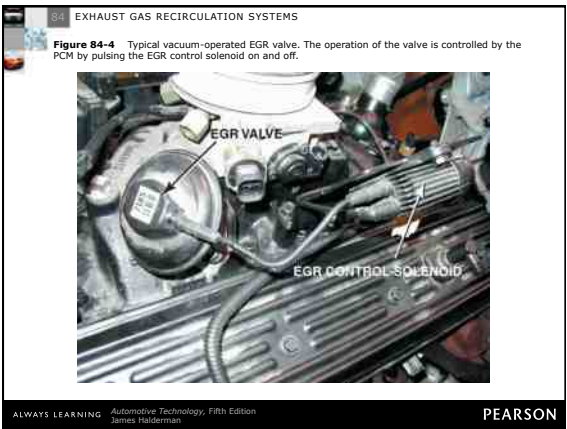
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84 EXHAUST GAS RECIRCULATION SYSTEMS

**TECH TIP**

**Find the Root Cause**

Excessive back pressure, such as that caused by a partially clogged exhaust system, could cause the plastic sensors on the EGR valve to melt. Always check for a restricted exhaust whenever replacing a failed EGR valve sensor.

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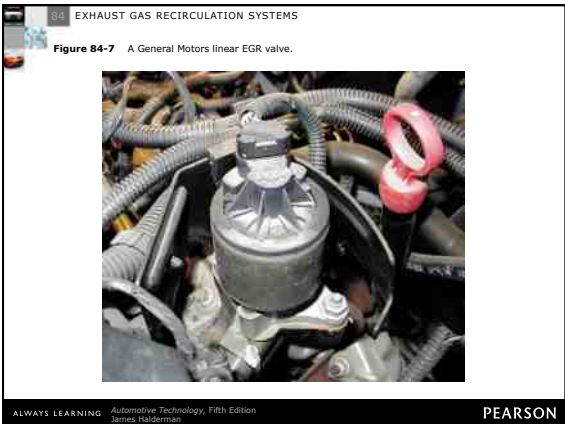
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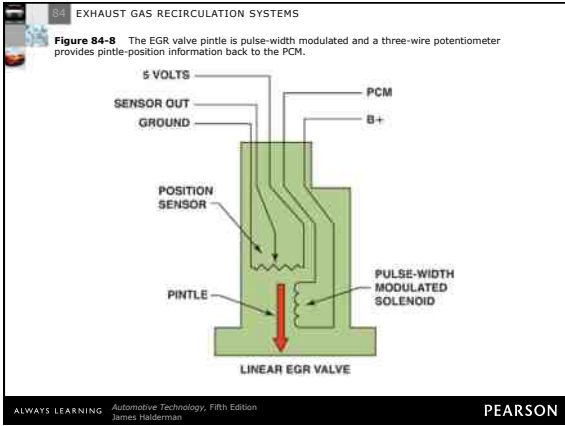
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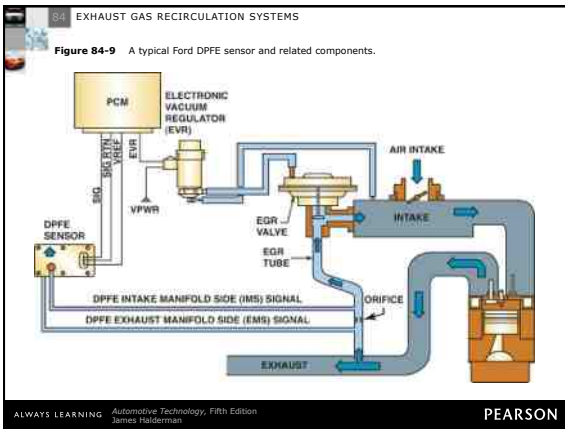
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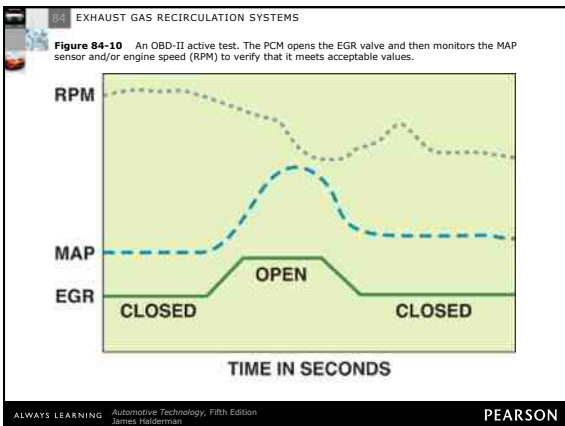
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84 EXHAUST GAS RECIRCULATION SYSTEMS

**TECH TIP**

**Watch Out for Carbon Balls!**

EGR valves can get stuck partially open by a chunk of carbon, and the valve or solenoid will test as defective. When the valve (or solenoid) is removed, small chunks or balls of carbon often fall into the exhaust manifold passage. When the replacement valve is installed, the carbon balls can be drawn into the new valve again, causing the engine to idle roughly or stall.

To help prevent this problem, start the engine with the EGR valve or solenoid removed. Any balls or chunks of carbon will be blown out of the passage by the exhaust. Stop the engine and install the replacement EGR valve or solenoid.

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84 EXHAUST GAS RECIRCULATION SYSTEMS

**REAL WORLD FIX**

**The Blazer Story**

The owner of a Chevrolet Blazer equipped with a 4.3-L V6 engine complained that the engine would sputter and hesitate at times. Everything seemed to be functioning normally, except that the service technician discovered a weak vacuum going to the EGR valve at idle. This vehicle was equipped with an EGR solenoid control solenoid, called an electronic vacuum regulator valve (EVRV) by General Motors Corporation. The PCM uses the solenoid to control the vacuum that regulates the operation of the EGR valve. The technician checked the service manual for details on the workings of the system. The technician discovered that vacuum should be present at the EGR valve only when the gear selector indicates a drive gear (drive, low, reverse). Because the technician discovered the vacuum at the solenoid to be leaking, the solenoid was obviously defective and required replacement. After replacement of the solenoid EVRV, the hesitation problem was solved.

**NOTE:** The technician also discovered in the service manual that Blazer-type exhaust hoses should not be connected to the A-lugs on any vehicle while performing an inspection of the EGR system. The excessive exhaust by the engine could cause false EGR valve operation to occur.

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84 EXHAUST GAS RECIRCULATION SYSTEMS

**TECH TIP**

**The Snake Trick**

The EGR passages on many intake manifolds become clogged with carbon, which reduces the flow of exhaust and the amount of exhaust gases in the cylinders. This reduction can cause spark knock (detonation) and increased emissions of oxides of nitrogen (NO<sub>x</sub>) (especially important in areas with enhanced exhaust emissions testing).

To quickly and easily remove carbon from exhaust passages, cut an approximately 1-foot (30-cm) length from stranded wire, such as garage door guide wire or an old speedometer cable. Flame the end and place the end of the wire into the passage. Set your drill on reverse and turn it on, and the wire will pull its way through the passage, cleaning the carbon as it goes, just like a snake in a drainpipe. Some vehicles, such as Hondas, require that plugs be drilled out to gain access to the EGR passages.

SEE FIGURE 84-11.

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