Secondary Air Injection Diagnosis

Meets NATEF Task: (A8-E-6) Diagnose emissions and driveability concerns caused by the secondary air injection and catalytic converter systems; determine necessary action. (P-2)

Name _____ **Date** _____ **Time on Task** _____

Make/Model/Year _____ **VIN** _____ **Evaluation: 4 3 2 1**

AIR means "air injection reaction." An AIR pump supplies additional air to the exhaust system to reduce carbon monoxide (CO) and unburned gasoline (hydrocarbons or HC) exhaust emissions. Most AIR pump systems supply air to the exhaust manifold (exhaust ports) until the engine reaches closed loop operation. As soon as the computer reaches closed loop, the air flow is directed to the catalytic converter to help the catalyst oxidize the HC and CO into harmless water (H_2O) and carbon dioxide (CO_2).

_____ **1.** Check service information for the recommended test procedure and specifications for the secondary air injection system.

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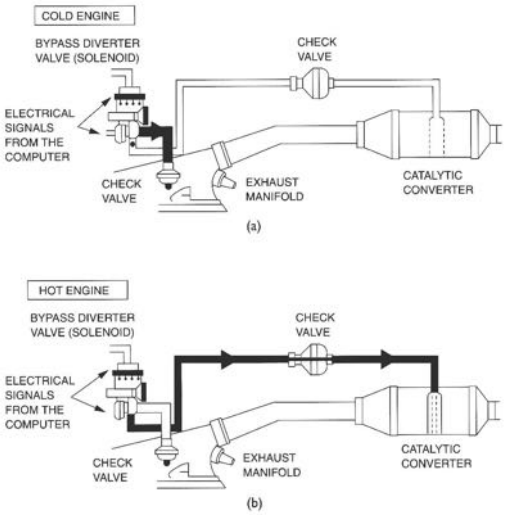

_____ **2.** Locate the air pump.

_____ **3.** Carefully inspect the condition of all of the hoses, check the valves and the metal lines for corrosion or damage.

_____ **4.** Start the engine and feel the air pump lines to confirm the proper air flow.

NOTE: A defective one-way check valve at the exhaust manifold can allow hot exhaust gases to flow past the check valve and cause damage to the switching valves, hoses or air pump itself. These exhaust gases can cause poor engine operation and stalling if drawn into the air intake system.

_____ **5.** Inspect the air pump drive belt for cracks and proper tension or electrical connections for an electric air pump.

_____ **6.** Based on the inspection and test results, what is the necessary action?

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