

TEST STEP		RESULT	ACTION TO TAKE
<b>B1</b>	<b>INSPECT EXHAUST SYSTEM</b>		
	<ul style="list-style-type: none"> <li>Visually inspect exhaust system.</li> <li>Is exhaust system visually OK?</li> </ul>	Yes	▶ For 7.5L MFI: GO to <b>B10</b> . ▶ For all others: GO to <b>B2</b> .
		No	▶ REPLACE any damaged exhaust components. VERIFY elimination of symptom. If problem is not corrected, GO to <b>B2</b> .

TEST STEP		RESULT	ACTION TO TAKE
<b>B2</b>	<b>VACUUM TEST</b>		
	<ul style="list-style-type: none"> <li>Attach vacuum gauge to intake manifold vacuum source.</li> <li>Hook up tachometer.</li> <li>Observe the vacuum gauge needle while performing the following:               <ul style="list-style-type: none"> <li>Start engine and gradually increase the engine rpm to 2000 with the transmission in NEUTRAL.</li> </ul> </li> </ul> <p>NOTE: The vacuum gauge reading may be normal when the engine is first started and idled. However, excessive restriction in the exhaust system will cause the vacuum gauge needle to drop to a low point even while the engine is idled.</p> <ul style="list-style-type: none"> <li>Decrease engine speed to base idle rpm.</li> <li>Did manifold vacuum reach above 16 inches of mercury with the engine rpm at 2000?</li> </ul>	Yes	▶ No restriction in the exhaust system. REFER to Section 2A, Diagnostic Routines Index, for Lack of Power.
		No	▶ GO to <b>B3</b> .
<b>B3</b>	<b>VACUUM TEST—RATE OF VACUUM GAUGE NEEDLE RETURN MOVEMENT</b>		
	<ul style="list-style-type: none"> <li>Vacuum gauge attached to intake manifold vacuum source.</li> <li>Tachometer installed.</li> <li>Increase the engine speed gradually from base idle rpm to 2000 rpm with the transmission in NEUTRAL.</li> <li>Observe the rate of speed of the vacuum gauge needle as it falls and rises, while maintaining the increased engine rpm.</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>On a non-restricted system, the vacuum gauge needle will drop to zero and then quickly return to the normal setting without delay.</li> <li>On a restricted system, as the engine rpm is increased to 2000, the vacuum gauge needle will slowly drop to zero. As the increased rpm is maintained, the needle will slowly rise to normal.</li> <li>The rate of speed at which the vacuum gauge needle returns to the normal setting is much slower on a restricted system than on a non-restricted system.</li> </ul> <ul style="list-style-type: none"> <li>Decrease engine speed to base idle rpm.</li> <li>Is rate of speed that the vacuum gauge needle returns to the normal setting much slower than that of a non-restricted system?</li> </ul>	Yes	▶ GO to <b>B4</b> .
		No	▶ No restriction in the exhaust system. REFER to Section 2A, Diagnostic Routines Index, for Lack of Power.

TEST STEP		RESULT	ACTION TO TAKE
<b>B4</b>	<b>VACUUM TEST—EXHAUST DISCONNECTED</b>		
	<ul style="list-style-type: none"> <li>Turn engine off.</li> <li>Disconnect exhaust system at exhaust manifold(s).</li> <li>Repeat vacuum test found in Step <b>B2</b>.</li> <li>Is manifold vacuum above 16 inches of mercury?</li> </ul>	Yes	▶ GO to <b>B5</b> .
		No	▶ GO to <b>B6</b> .
<b>B5</b>	<b>VACUUM TEST—CATALYTIC CONVERTER(S) ON/MUFFLER(S) OFF</b>		
	<ul style="list-style-type: none"> <li>Turn engine off.</li> <li>Reconnect exhaust system at exhaust manifold(s).</li> <li>Disconnect muffler(s).</li> <li>Repeat vacuum test found in Step <b>B2</b>.</li> <li>Is the manifold vacuum above 16 inches of mercury?</li> </ul>	Yes	▶ REPLACE muffler(s).
		No	▶ REPLACE catalytic converter and inspect muffler to be sure converter debris has not entered muffler.
<b>B6</b>	<b>EXHAUST MANIFOLD RESTRICTED</b>		
	<ul style="list-style-type: none"> <li>Remove the exhaust manifold(s). Inspect the ports for casting flash by dropping a length of chain into each port.</li> </ul> <p>NOTE: Do not use a wire or lamp to check ports. The restriction may be large enough for them to pass through, but small enough to cause excessive back pressure at high engine rpm.</p> <ul style="list-style-type: none"> <li>Is a restriction present?</li> </ul>	Yes	▶ REMOVE casting flash. If flash cannot be removed, REPLACE exhaust manifold(s).
		No	▶ REFER to Section 2A, Diagnostic Routines Index, for Lack of Power.