

# Troubleshooting the Brake System (cont.)

Problem	Cause	Solution
Spongy brake pedal (pedal has abnormally soft, springy, spongy feel when depressed.)	<ul style="list-style-type: none"> <li>• Air in hydraulic system</li> <li>• Brakeshoes bent or distorted</li> <li>• Brakelining not yet seated with drums and rotors</li> <li>• Rear drum brakes not properly adjusted</li> </ul>	<ul style="list-style-type: none"> <li>• Remove air from system. Refer to Brake Bleeding.</li> <li>• Replace brakeshoes</li> <li>• Burnish brakes</li> <li>• Adjust brakes</li> </ul>
Hard brake pedal (excessive pedal pressure required to stop vehicle. May be accompanied by brake fade.)	<ul style="list-style-type: none"> <li>• Loose or leaking power brake unit vacuum hose</li> <li>• Incorrect or poor quality brake-lining</li> <li>• Bent, broken, distorted brakeshoes</li> <li>• Calipers binding or dragging on mounting pins. Rear brakeshoes dragging on support plate.</li> <li>• Caliper, wheel cylinder, or master cylinder pistons sticking or seized</li> <li>• Power brake unit vacuum check valve malfunction</li> <li>• Power brake unit has internal bind</li> <li>• Master cylinder compensator ports (at bottom of reservoirs) blocked by dirt, scale, rust, or have small burrs (blocked ports prevent fluid return to reservoirs).</li> <li>• Brake hoses, tubes, fittings clogged or restricted</li> <li>• Brake fluid contaminated with improper fluids (motor oil, transmission fluid, causing rubber components to swell and stick in bores</li> <li>• Low engine vacuum</li> </ul>	<ul style="list-style-type: none"> <li>• Tighten connections or replace leaking hose</li> <li>• Replace with lining in axle sets</li> <li>• Replace brakeshoes</li> <li>• Replace mounting pins and bushings. Clean rust or burrs from rear brake support plate ledges and lubricate ledges with molydisulfide grease.</li> </ul> <p><b>NOTE:</b> If ledges are deeply grooved or scored, do not attempt to sand or grind them smooth—replace support plate.</p> <ul style="list-style-type: none"> <li>• Repair or replace parts as necessary</li> <li>• Test valve according to the following procedure:               <ol style="list-style-type: none"> <li>(a) Start engine, increase engine speed to 1500 rpm, close throttle and immediately stop engine</li> <li>(b) Wait at least 90 seconds then depress brake pedal</li> <li>(c) If brakes are not vacuum assisted for 2 or more applications, check valve is faulty</li> </ol> </li> <li>• Test unit according to the following procedure:               <ol style="list-style-type: none"> <li>(a) With engine stopped, apply brakes several times to exhaust all vacuum in system</li> <li>(b) Shift transmission into neutral, depress brake pedal and start engine</li> <li>(c) If pedal height decreases with foot pressure and less pressure is required to hold pedal in applied position, power unit vacuum system is operating normally. Test power unit. If power unit exhibits a bind condition, replace the power unit.</li> </ol> </li> <li>• Repair or replace master cylinder</li> </ul> <p><b>CAUTION:</b> Do not attempt to clean blocked ports with wire, pencils, or similar implements. Use compressed air only.</p> <ul style="list-style-type: none"> <li>• Use compressed air to check or unclog parts. Replace any damaged parts.</li> <li>• Replace all rubber components, combination valve and hoses. Flush entire brake system with DOT 3 brake fluid or equivalent.</li> <li>• Adjust or repair engine</li> </ul>