



## How To Fix Common Brake Problems

by [Larry Carley](#) copyright 2019 AA1Car.com

Brake problems usually indicate the need for certain repairs or replacement parts, so here is a quick review of some common fixes:

**LOW BRAKE FLUID** This may be the result of worn disc brake pads, or it may indicate a leak in the brake system. If the [BRAKE WARNING LIGHT](#) is also on, most likely the problem is a leak (though the Brake Warning light may also come on if the master cylinder reservoir has a fluid level sensor). Leaks are dangerous because they can cause [brake failure](#). The [brake calipers](#), wheel cylinders, brake hoses and lines, and master cylinder all need to be inspected. If a leak is found, the defective component must be replaced. Your vehicle should NOT be driven until the leak can be repaired.

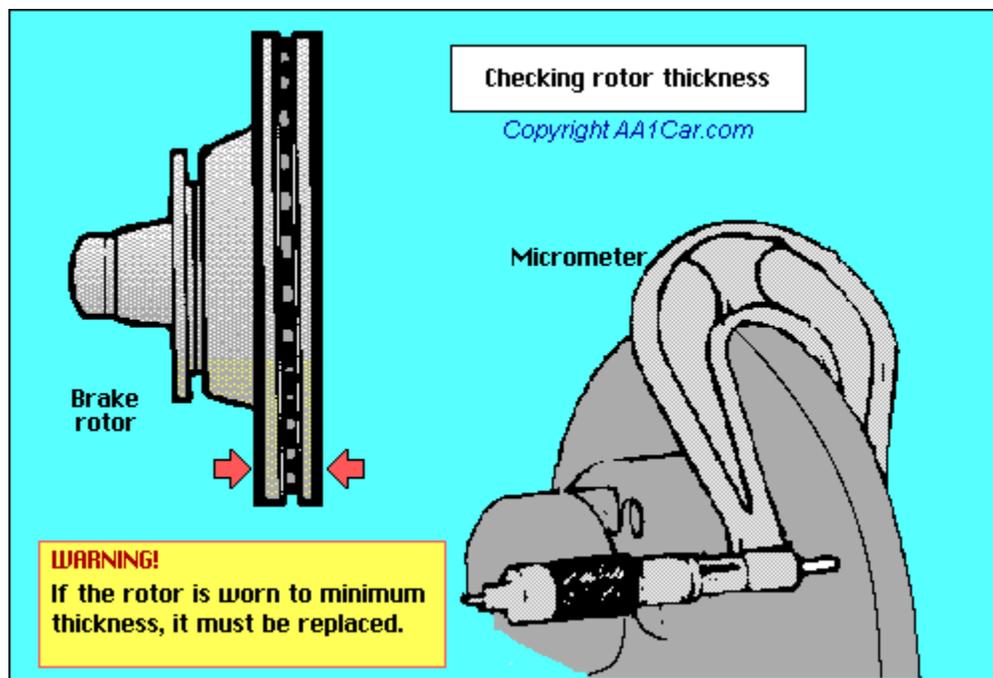
**LOW BRAKE PEDAL** The brake pedal may be low if the shoe adjusters on rear drum brakes are rusted or sticking and not compensating for normal lining wear. Adjusting the rear drum brakes may restore a full pedal. But unless the adjusters are cleaned or replaced the problem will return as the linings continue to wear. Other causes include worn brake linings or a fluid leak.

**SPONGY OR SOFT BRAKE PEDAL** This is usually caused by air in the brake system, either as a result of improper bleeding, fluid loss or a very low fluid level. The cure is to bleed all of the brake lines using the sequence recommended for your vehicle. Another possible cause is a rubber brake hose that is "ballooning" when the brakes are applied.

**EXCESSIVE BRAKE PEDAL TRAVEL** Possible causes include worn brake linings front or rear (or both), misadjusted drum brakes, or air in the brake lines. This can be dangerous because the brake pedal may run out of travel before the brakes are fully applied. Pumping the pedal when you apply the brakes usually helps, but you need to diagnose and fix the problem.

**PEDAL SINKS TO FLOOR** This may occur while holding your foot on the brake pedal at a stop light. If the pedal goes slowly down, it means the master cylinder is not holding pressure. This is also a potentially dangerous condition because a worn master cylinder or a leak in the hydraulic system may cause the brakes to fail.

**BRAKE PEDAL PULSATION** Indicates a warped brake rotor (one that is worn unevenly). The rotor needs to be resurfaced or replaced. The faces of a rotor must be parallel (within .0005 inch on most cars) and flat (no more than .003 inches of runout as a general rule on most cars and trucks, but some cars cannot tolerate any more than .0015 inches of runout). Excessive runout can be corrected by resurfacing the rotors in place with an on-car brake lathe, or by installed special tapered shims between the rotors and hub to correct the runout.



**SCRAPING NOISE FROM BRAKES** Usually indicates metal-to-metal contact due to worn out disc brake pads (or shoes on rear drum brakes). Your vehicle needs a brake job now! In fact, it is overdue for a brake job. Your vehicle is also dangerous to drive in

this condition because it may take longer to stop. The rotors and/or drums will likely have to be resurface or replaced because you waited too long to replace the pads and shoes.

**BRAKE SQUEAL** Can be caused by vibrations between the disc brake pads and caliper, or the pads and rotor. Harder semi-metallic brake pads tend to be noisier than nonasbestos (NOA) or ceramic brake pads. The noise can usually be eliminated by replacing the old pads with new ones (ceramic pads are usually the quietest, but may not be available for some applications because the vehicle requires semi-metallic pads), and resurfacing or replacing the rotors. Installing noise dampening shims behind the pads, spraying the rotors with some type of aerosol brake noise control compound and/or applying a small amount of high temperature brake grease (never ordinary grease) to the backs of the pads can also help suppress noise. Also, if any pad mounting hardware such as shims or anti-rattle clips are missing, these should be replaced.



*Replacing your old noisy brake pads with ceramic pads can eliminate annoying brake squeal. Applying a moly-based high temperature brake grease to the backs of the pads can also help dampen vibrations and noise.*

**BRAKE CHATTER** Can be caused by warped rotors or rotors that have been improperly finished.

**GRABBY BRAKES** Oil, grease or brake fluid on the brake pads will cause them to slip and grab. This may create a jerky sensation when braking. The cure is to inspect the pads for contamination, replace them if they have oil, grease or brake fluid on them, and eliminate the cause of the contamination (such as replacing a leaky brake caliper or curing a nearby oil/grease leak). Badly scored drums or rotors can also cause uneven or grabby braking. Resurfacing may be needed.

**DRAGGING BRAKES** This can cause a steering pull and/or increased fuel consumption. The constant drag will also accelerate brake wear and cause the brakes to run hot (which can increase pedal effort and the risk of brake fade if the brakes get too hot). Dragging brakes can be caused by weak or broken retracting springs on drum brakes, a jammed or corroded disc brake caliper piston, a floating caliper with badly corroded mounting pins or bushings (uneven pad wear between the inner and outer pads is a clue here), overextended drum brake self-adjusters or a sticky or frozen emergency brake cable.

**BRAKES PULL TO ONE SIDE** If your vehicle suddenly swerved to one side when you apply the brakes, there is uneven braking side-to-side. This usually means one front brake is not working properly. The pull will be toward the side with the good brake (because it is doing all the work). Brake pull can be caused by brake fluid, oil or grease on the brake pads, a stuck caliper, a blockage in the brake line to one of the front calipers, or sometimes loose wheel bearings. A brake pull can also be caused by different types/brands of brake pads side-to-side on the front brakes. Different friction materials have different friction characteristics, so the brakes will pull toward the side that generates the most friction.



*When replacing brake pads to cure a brake problem, the caliper pistons must be pushed in. The pistons can be pushed in with a large C-Clamp, but a power tool is much faster and easier.*

**HARD BRAKE PEDAL** Lack of power assist may be due to low engine vacuum, a leaky vacuum hose to the brake booster, or a defective brake booster. The booster is located between the master brake cylinder and firewall in the engine compartment. Sometimes a faulty check valve will allow vacuum to bleed out of the booster causing a hard pedal when the brakes are applied. This condition can be diagnosed by starting the engine (to build vacuum), shutting it off, waiting four or five minutes, then trying the brakes to see if there is power assist. No assist means a new check valve is needed.

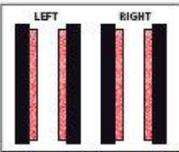
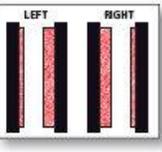
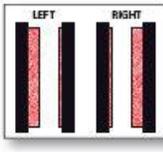
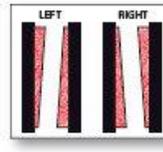
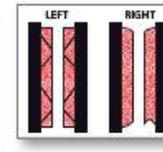
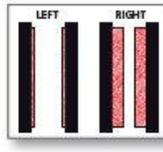
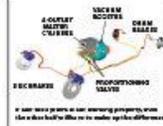
A quick way to check the vacuum booster is to pump the brake pedal several times with the engine off to bleed off any vacuum that may still be in the unit. Then hold your foot on the pedal and start the engine. If the booster is working, the amount of effort required

to hold the pedal should drop and the pedal itself may depress slightly. If nothing happens and the vacuum connections to the booster unit are okay, a new booster is needed (the vacuum hose should be replaced, too).

On vehicles equipped with "Hydroboost" power brakes, a hard pedal can be caused by a loose power steering pump belt, a low fluid level, leaks in the power hoses, or leaks or faulty valves in the hydroboost unit itself (the latter call for rebuilding or replacing the booster). On vehicles that use the ABS pump to generate brake boost, a problem with the ABS pump or high pressure accumulator can cause a loss of power assist. This will usually cause the ABS WARNING LIGHT to come on. The ABS system will also set a fault code that corresponds to the problem, which requires a scan tool to read.

## Six Common Brake Problems Chart

# The Six Most Common Brake Conditions

Condition 1	Condition 2	Condition 3	Condition 4	Condition 5	Condition 6
 <p><b>NORMAL WEAR</b> All Pads Worn Evenly Both Wheels</p>	 <p><b>Outboard Pads Worn</b> <b>Inboard Pads Normal</b></p>	 <p><b>Inboard Pads Worn</b> <b>Outboard Pads Normal</b></p>	 <p><b>Tapered Pad Wear</b></p>	 <p><b>Cracked or Chipped Pads</b></p>	 <p><b>Pad Wear Abnormal</b> <b>One Wheel Only</b></p>
<p><b>THE FIX</b></p> <ul style="list-style-type: none"> <li>✓ Replace Pads</li> <li>✓ Service Rotor</li> </ul> <p><b>PREVENTIVE MAINTENANCE ALERT FOR VEHICLE OWNER</b></p> <p>While replacing the pads and servicing the rotor will address this condition, to ensure full pad life, we urge our customers to consider our <b>COMPLETE BRAKE JOB</b>, which includes replacing your brake calipers.</p>	<p><b>What's Happening?</b></p>  <p>Rust on the caliper and/or bushings prevents free movement.</p>	<p><b>What's Happening?</b></p>  <p>Bushings are pitted and rusted, causing the caliper housing to "freeze" and not move.</p>	<p><b>What's Happening?</b></p>  <p>Sliding pins and bushings must be lubed with the proper lube if they are to operate properly.</p>	<p><b>What's Happening?</b></p>  <p>Rust on the housing or bushings/pins prevents the caliper from releasing from the rotor, resulting in excessive heat.</p>	<p><b>What's Happening?</b></p>  <p>Rust in the caliper bore or on the piston causes ONE caliper to "freeze".</p>
 <p><b>CALIPER AT REST</b>      <b>CALIPER DURING BRAKING</b></p> <p>The square-cut seal is responsible for removing the piston and pad from the rotor. Because the seal is inside the caliper, it cannot be inspected.</p>  <p>Heat and time dry out the square-cut seal and reduce the amount of pull-back as the seal ages. A new seal will pull back the piston about 0.015 inch. In comparison, an old seal may only pull back 0.010 inch or less. If the piston does not retract, it can cause the pads to drag, wearing the pads prematurely.</p>	<p><b>THE FIX</b></p> <ul style="list-style-type: none"> <li>✓ Complete Brake Job</li> </ul>	<p><b>THE FIX</b></p> <ul style="list-style-type: none"> <li>✓ Complete Brake Job</li> </ul>	<p><b>THE FIX</b></p> <ul style="list-style-type: none"> <li>✓ Complete Brake Job</li> </ul>	<p><b>THE FIX</b></p> <ul style="list-style-type: none"> <li>✓ Complete Brake Job</li> </ul>	<p><b>THE FIX</b></p> <ul style="list-style-type: none"> <li>✓ Complete Brake Job</li> <li>✓ Replace Master Cylinder</li> </ul>  <p>On diagonal split brake systems, a restriction at the master cylinder can cause an imbalance in the system.</p>
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