

May Tech Tip



Brake and Chassis Experts

Brake Job Myth Busting

Six myths that could be holding you back from performing the best brake job.

1. All pads are created equal... False

One of the greatest myths out there is that some customers will not use the full potential of a brake pad due to their driving style or commute. This is false, because the one time the customer needs to use the full potential of the pad, the performance will not be measured in dollars and cents, but inches and feet.

What standards should your customers use when selecting replacement brake pads? Try them for yourself! Set aside some time when the shop is not busy or on a weekend to try out a set of brake pads. Perform at least four emergency stops from 55 mph to a dead stop back to back. Let your right foot be the judge.

2. The more lube, the less noise... False

Basting a set of pads or caliper slides in lubricant, no matter how expensive they are, will not solve a noise issue for an extended period of time. Why? Because the excess lubricant can melt or some chemicals can flash off. The melting lubricant can find its way on to the pads causing a judder problem and longer stopping distances.

Excessive lube also can attract debris and dirt. As the lube hardens over time, it turns to a concrete-like substance that causes slides and calipers to stick. If excessive lubricant finds its way onto the caliper piston's boot, the lubricant will attract metal particles that can destroy the rubber.

Shims need only a small amount of lubricant. Some floating one-piece and two-piece shims require only a small amount of lubricant between the surfaces of the shim and pad. There is no need to coat the entire back of a brake pad with a lubricant.

For the caliper anchor pins, a silicone-based brake grease should be used. It must be compatible with all rubber compounds including nitrile, Teflon, nylon and other synthetic rubbers.

For the shims, abutment clips and slides, a synthetic-based boundary-type lubricant that has a high-solids content and typically contains a variety of friction-reducing ingredients, such as molybdenum disulfide (moly or MOS₂) and graphite, should be used.

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3. Shims are not required ... False

One of the greatest mistakes made is not installing shims on a new set of pads. On new vehicles, the shims are designed along with the caliper and pads. Shims are not a last minute "add-on" to make sure the pads fit. Instead, they are a critical part making sure the brakes operate sufficiently and quietly.

More and more OEMs and aftermarket brake pad manufacturers are using single and two-piece shims that clip on to the front in-board and outboard pads. This design creates a "boundary layer," preventing vibrations from being transmitted to the caliper and knuckle. They can also prevent heat from being transmitted to the piston. Shims should always be replaced.

4. All rotors are the same ... False

A rotor can fit on a vehicle and still not be the right rotor for the vehicle or driver. The wrong rotor that fits may develop runout, BTV and DTV sooner than a quality rotor. Also, low-quality rotors may have compromises in the structure and metallurgy that may make sense to the wallet, but not the driver.

5. New rotors need to be machined ... False

New rotors are supposed to be finished to specifications and ready to install out of the box. There should be no reason to give them a "clean up" cut. If they do need a cut, you need to find a different rotor.

A recent survey found that 35 percent of our readers are still machining brand new rotors before they install the rotors on their customers' vehicles. Machining new rotors shortens rotor life. It may also leave a rougher finish on the rotors than the factory finish.

The manufacturing tolerances on most new rotors average about 0.001 inches or less, with a maximum upper limit of 0.004 inches. Some cars are unusually sensitive to rotor runout. As little as 0.0015 inches of runout on these cars may produce noticeable pedal pulsations.

6. Repair information isn't needed for a brake job ... False

All brake systems may look the same after a while, but it is the unseen that can hurt and cause a comeback. It might be as simple as a torque specification for a caliper bracket or as complex as a disarm procedure for an ABS system. Technicians need to have access to current repair information. Information can pay for itself by saving time and preventing a comeback.

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