In 2006, NAPA introduced a new type of brake pad designed to adapt to any driving style. Adaptive One® Hybrid Ceramic Disc Brake Pads are unlike any brake pad on the market because the inboard and outboard pad in each set has its own specially engineered friction material.

The Adaptive One pads are designed to provide long-lasting, dust-free, quiet performance and to adapt to each application and driver’s braking style. The product has been well accepted by both motorists and installers, and is usually sold as an upgrade replacement for factory original equipment ceramic brake pads.

Today, the Adaptive One product line currently has 363 part numbers. Abutment hardware has recently been added to 68 existing part numbers to improve braking performance.

How Adaptive One Differs From Other Brake Pads

With most brake pads, the friction material used on the inner and outer pads is the same. Consequently, the friction material that is chosen for a particular vehicle application is typically a compromise between braking performance, noise, pedal feel, fade resistance and wear resistance. This obviously limits what can be accomplished with a single friction material.

By comparison, Adaptive One uses different friction materials for the inner and outer brake pads. Adaptive One’s inboard pad is specially formulated for optimal stopping performance, while the outboard pad is specially formulated to reduce noise and dusting. The difference in friction characteristics between the inner and outer pads improves overall braking performance over a broader range of braking conditions and driving styles. That’s what makes Adaptive One unique compared to other aftermarket replacement brake pads.
The inner and outer Adaptive One brake pads react differently when the brakes are applied by supplying the appropriate levels of stopping performance. So whether the pads are hot or cold, or the driver is aggressive or conservative behind the wheel, Adaptive One provides consistent pedal feel with the best possible combination of stopping power, noise abatement and low dusting qualities.

Adaptive One friction materials are manufactured to meet the highest performance and quality standards. Validation testing and quality audits are performed to assure product consistency that is worthy of the NAPA name. All friction materials also undergo SAE J2784 testing to assure full compliance with current Federal Motor Vehicle Safety Standard (FMVSS) requirements.

Noise Suppression
Another difference between Adaptive One and competitive pads is the engineering effort that has been put into suppressing noise. As a premium brake pad, Adaptive One pads are slotted and chamfered to dampen unwanted vibrations that can make brakes noisy. Adaptive One pads also have a special “friction underlayer insulation barrier” between the pad and backing plate to further dampen vibrations. The backs of the pads also have a rubber coating on the inside and a “Chemlon™” low-friction coating on the back to further dampen and control noise-producing vibrations.

The hardware that is included with many Adaptive One pad sets is also rubber coated for additional side-force dampening. The coating insulates noise caused by vibration against the side abutments in the caliper bracket when the brakes are applied.

Safer Too
Adaptive One brake pads also feature the NRS Noise Reduction System. Hook-shaped teeth on the steel backing plate project outward into the molded friction material and permanently attach the friction pad to the backing plate. This positive locking mechanism eliminates any chance of edge lift, pad separation or shearing between the backing plate and the friction pad for safer, quieter operation for the duration of the pad’s service life.

The Latest Adaptive One Enhancements
Friction materials are constantly evolving and improving to deliver even better braking performance. The latest generation of Adaptive One friction materials incorporate improvements that make these outstanding pads even better:

- Stopping distance has been reduced up to 20%!
- Noise has been reduced an additional 44%!
- Average pad life is 4% better!

Even the packaging has been improved. The new Adaptive One boxes have a red band on the side so you can tell at a glance if the pad set includes abutment hardware. If you don’t

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**TECH tips**

- Check for excessive rust and corrosion when replacing the pads on high mileage vehicles. External rust on caliper slides, bushings and pins can inhibit caliper movement and cause uneven pad wear and uneven braking (a pull to one side). Internal corrosion in calipers, wheel cylinders and the master cylinder can wear seals and cause pistons to stick. New disc and drum brake hardware is recommended for high mileage vehicles, or those with badly corroded hardware.

- If rotors are worn to minimum service specifications, they must be replaced.

- Rotor Thickness and Trueness. If rotors are worn down to minimum service specifications, or cannot be resurfaced without exceeding these specifications, they must be replaced. Variations in rotor thickness can cause pedal pulsations when braking. Too much lateral runout can do the same thing. Lateral runout can be measured by placing a dial indicator against the surface of the rotor and turning it one full revolution. Most rotors should have no more than .003 to .005 inches of runout. Excessive runout can be caused by runout in the hub, dirt or corrosion between the rotor and hub, or runout in the rotor itself (as a result of wear or incorrect machining).
see a red stripe, the abutment hardware is not included and must be sold as an add-on sale.

Adaptive One pads also come with a limited lifetime noise-free warranty. The pads are guaranteed to be free from noise, and defects in materials and workmanship for the service life of the pads (which lasts until the wear sensors touch the rotors or the pads are less than 3 mm thick).

**Selling Adaptive One**
Adaptive One pads are available for most vehicle applications that were originally equipped with factory ceramic brake pads. Adaptive One pads have been successfully used in other applications as well, but the focus is primarily a replacement upgrade for OEM ceramic pads.

Adaptive One appeals to the customer who wants something better than standard replacement pads for their vehicle. They may want pads that are quieter than their original brakes, or provide better stopping performance and reduced dusting. The black brake dust that many pads give off as they wear can stick to alloy wheels making the wheels appear dirty even though the rest of the car may be clean as a whistle. Adaptive One can eliminate the ugly brake dust.

If a customer doesn’t like the way his brakes feel when they transition from cold to hot, Adaptive One can provide a more consistent and predictable pedal feel.

Adaptive One pads provide quiet performance for customers who are concerned with brake noise.

Adaptive One can also provide extended pad life compared to many OEM pads, and reduce rotor wear. Some friction materials are very harsh and can wear rotors rather quickly. The friction material in Adaptive One pads forms a thin transfer film on the face of the rotors. This will provide a longer rotor life than friction materials that use abrasion to develop friction.

**Installing Adaptive One**
For proper braking action, the inner and outer Adaptive One pads must be installed in the correct location on the rotor. The inner and outer pads are labeled on the friction edge code, and the pads are also color coded for identification. Inner pads have a small red dot on the back while outer pads have a small blue dot on the back. The inner pads are placed on the inside (caliper piston side) of the rotor, while the outer pads are mounted on the outside (wheel side) of the rotor.

No other special installation or break-in procedures are required with Adaptive One pads. The pads can be bedded in by

*continued on back*
performing 15 to 20 normal stops from 30 to 40 mph. Hard stops should be avoided for the first 200 miles.

Rotors should be in good condition (clean, smooth and flat with no pedal pulsation, cracking, hard spots or excessive grooving) when new pads are installed. Rotors that are rough but still with acceptable wear limits should be resurfaced to restore a proper friction surface for the pads. A non-directional surface is recommended, which can be achieved by lightly sanding both sides of the rotor with #120 grit abrasive disc after the rotor has been turned.

If the original rotors are cracked, have hard spots (pedal pulsations), or are worn to minimum thickness specifications, the rotors must be replaced. For best results, recommend NAPA Reactive One premium brake rotors. These rotors feature high-carbon dampened iron castings with a special Onyx Guard polymer coating to keep the rotor edges and vanes rust free. Non-directional Cool Track vents on the rotor surface improve pedal feel by allowing pad out-gassing.

Reactive One rotors are designed to provide optimum performance with Adaptive One brake pads.

Doing The Perfect Brake Job

By the time the original brake pads on a vehicle are worn out and need to be replaced, chances are other components in the brake system may also require attention. This includes the rotors, calipers, brake hardware, brake lines and hoses, master cylinder and rear brake drum components (drums, wheel cylinders and parking brake mechanism). Overlooked faults can be dangerous and may lead to customer complaints and comebacks.

Any parts that no longer meet minimum service specifications, are damaged, severely corroded or leaking should be replaced. Parts that are nearing the end of their useful service life may also be replaced for preventive maintenance and to prolong the life of the brake system.

For photo details on how to perform a perfect brake job, go online to www.theperfectbrakejob.com.

Review Questions August 2012:
Adaptive One Premium Brake Pads

1. Adaptive One brake pads:
   a. Use different friction materials on the inner and outer pads
   b. Use the same friction materials on the inner and outer pads
   c. Require a special break-in procedure for optimum braking
   d. Require special hardware or shims to install

2. Adaptive One brake pads typically replace what kind of OEM pads?
   a. Nonasbestos Organic (NAO)
   b. Semi-Metallic
   c. Ceramic
   d. All of the above

3. Which of the following is a benefit of Adaptive One pads?
   a. Shorter stopping distance
   b. Quieter braking
   c. Low dusting
   d. All of the above

Answers: 1. a, 2. c, 3. d