



The Right [Brake] Stuff

Using aftermarket “OE-quality” replacement brake parts may not be the wisest choice. Here’s the right information on selecting the right brake components for your customers’ Subaru vehicles.

The question of whether or not to use OE brake parts lingers in the automotive aftermarket industry. Some would say that aftermarket brake parts are just as good as the OE parts and are cheaper. In fact, neither of these points is accurate.

OE brake parts are selected for use by the vehicle manufacturer after lengthy research and testing and supplied by the top companies in their respective fields. These components are made from the best materials, manufactured under the highest quality standards and monitored for any defects, which are quickly eliminated. They are backed by warranties from reputable companies. The same statements cannot be said about many aftermarket parts.

Lastly, the cost of brake parts should not be judged by the initial price of the component, but by its proper fit and function; safe and efficient braking performance; durability and therefore – its overall cost in the long run.

Safety and Performance

A brake system component is not just another car part, like a horn or a headlight. The very essence of safety is the vehicle’s ability to efficiently stop – every time – when the brakes are applied.

The brakes must perform flawlessly over the usable lifetime of the components, so we call this factor “performance.” The level of performance determines the safeness of the braking system.

Once the performance level of the components falls, the safety becomes



jeopardized. The brake system is then serviced to bring the level of performance – and therefore safety – back up to acceptable standards. Most often, servicing the brake system requires replacing the pads or shoes; usually the rotors or drums must be resurfaced and may often be replaced; and sometimes the calipers require service or replacement.

When you are servicing the braking components on a Subaru vehicle, you may be faced with making a decision about whether to use Genuine Subaru replacement parts or aftermarket parts. The question is: “Am I using the

right parts?” Here are the factors you need to seriously consider:

The Right Friction Material

Many suppliers of lesser-quality brake components offer not only inferior quality parts, but try to use fewer styles of parts to cover many different applications. The “one size fits all” doctrine just doesn’t make sense when we’re talking about the system that brings the vehicle to a safe, dependable stop at any and all speeds, under diverse road and weather conditions.

^ Subaru brake pads are specifically formulated for optimum performance when combined with the other braking components on each vehicle.

Thirty years ago, there was only one basic type of friction material used in all brake compound applications – asbestos. With the phasing out of asbestos, many other types of organic, non-organic, ceramic and semi-metallic compounds entered the

picture. Today, there are nearly thirty compound formulas, all designed to meet the specific needs of the various types of vehicles on the road, under diverse braking conditions.

Different compounds deliver different braking characteristics. Each vehicle has a specific profile of the friction compound that is best for use

with the driving performance level of the vehicle and the other braking components on the vehicle. Choosing the correct compound for the specific vehicle can only be achieved by skilled engineers, thoroughly testing and selecting the best formula. This is what Subaru engineers do when they design a vehicle.

The Right Pads

Different vehicles have different friction compound requirements, based on vehicle weight; drivetrain type; vehicle performance type; rotor type, size and metallurgy. The design of OE pads is based on proper stopping power, fade resistance, heat

✓ Matching the braking components is critical to optimum performance.





^ Genuine Subaru brake rotors meet the highest standards of manufacturing and inspection.

dissipation and pedal effort under all driving conditions.

The type of friction compound, as well as the method and quality of the manufacturing process determines the overall durability - and therefore the cost effectiveness - of the brake pad.

Your local Subaru N.E.W. Horizons Dealer can supply dozens of part numbers, each with specific applications for specific vehicles, covering models from the last several years.

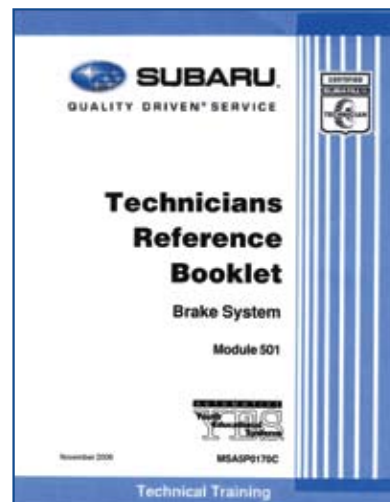
The Right Rotors

The selection of replacement rotors requires some logical thinking. Rotors

must meet the safety and performance level of the vehicle under its intended usage. For example: using a racing application intended for an Impreza WRX STI on a Tribeca would not be wise.

Rotors designs can range from safety-oriented styles for family-hauling vehicles to high speed braking applications, which require high heat dissipation. Each style is different. High performance racing-style rotors are usually slotted or drilled for heat dissipation and normally matched with high-density friction material pads. However, the smaller surface area reduces the contact coefficient desired in normal day-to-day driving, where maximum braking surface is desired.

v Brake System Technicians Reference Booklet, Module 501.



High quality rotors must be manufactured from the best materials, properly cast to eliminate warping, casting pockets and fissures which can result in premature replacement.

The Right Calipers

The quality and function of the actuating pistons and seals largely determines the performance and safety level of the calipers, but the proper fit, tolerances and durability of the caliper and mounting accessories are also critical.

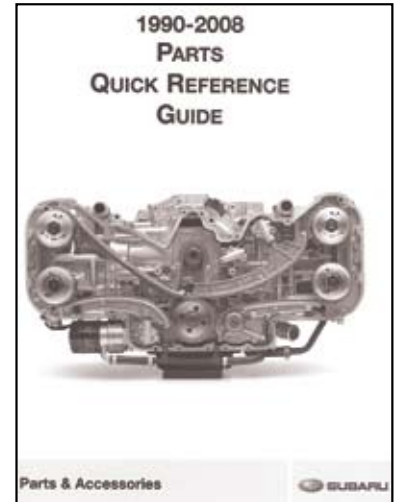
Subaru brake calipers utilize either a single or dual piston design, depending on the model. Each design

incorporates pistons with an optimum bore size for rapid and effective brake force application when the brake pedal is pushed and smooth consistent release when the foot is lifted off the pedal. Using a caliper without these exacting specifications jeopardizes braking performance and safety.

The position of the caliper mounting holes and components must be in the exact positions as on the OE calipers or the braking operation may not align or perform as specifications require. The smooth action of the slide pins must also be precise.

Lastly, the quality of the caliper casting is important. The absence of cracks and fissures, resistance to

✓ 1990-2008 Parts Quick Reference Guide.



Genuine Subaru Remanufactured Calipers

Not all remanufactured calipers are alike. Genuine Subaru calipers begin with the original equipment. They're disassembled, cleaned, machined and refitted with OE parts to strict standards. Then, they are tested and assembled in a dust-free environment to prevent contamination. And, they're backed by the Genuine Subaru Parts Limited Warranty. They fit and function like new Genuine Subaru parts, and save you money because they cost less to build. You and your customers can trust them to perform as good as the original factory parts. There's no compromise in safety or quality.

Contact your local N.E.W. Horizons Dealer for application details on Genuine Subaru Remanufactured brake calipers.



corrosion and the quality of machining can determine the overall fit, function and durability of the caliper.

When considering the importance of the brake caliper specifications for constant, flawless performance, it's easy to understand that "one size fits many" calipers are not a wise choice.

The Right Match

Matching the right pad to the right rotor and the right caliper is crucial. If the formula compounding of the pad is harder than the OE part, the result may be harsh "grabbing" of the brakes and/or excessive wear of the rotor, resulting in premature replacement. If the pads are softer than the OE part, the result may be underperforming braking, resulting in an unsafe operating condition. Matching the right caliper to control the right pad and rotor is necessary to provide the best control of braking power. The value of properly applying and releasing the brake – time after time – cannot be understated.

The Right Components

Different types of powertrains require slightly different types of braking system components. Rear-wheel-drive vehicles have different braking characteristics than front-wheel-drive or all-wheel-drive vehicles. The design of Subaru components takes into consideration the type of All-Wheel-Drive system used on each specific vehicle and matches them for optimum performance.

The Right Service Information

Just as important as the right braking components is the right service information. With Subaru of America Inc., that information is always at your fingertips. Complete service information is available 7/24 on the Subaru Technical Information Systems website at

<http://techinfo.subaru.com>.

On the website, you will find all the shop manuals and information needed to service your customer's Subaru vehicle. To further help you can view or download the Brake System Technicians Reference Booklet, Module 501; P/N MSA5P0170C.

The Right Parts

To help you identify the right Subaru brake parts, the 1990–2008 Parts Quick Reference Guide, P/N MSA6P0802, is available through your local Subaru N.E.W. Horizons Dealer.

It lists Genuine Subaru replacement parts and accessories including brake pads and shoes, brake system reseal kits, master cylinder reseal kits and remanufactured calipers – all covered by the Genuine Subaru Limited Parts Warranty.

Because part numbers change from time to time, always have the VIN handy when ordering. VIN charts are deciphered in the front of the guide.

The Right Choice

In a nutshell: the very best way to maintain the specific engineered-in safety, performance and overall operation of your customer's Subaru vehicle is to match the original Subaru brake components as closely as possible. Considering the facts, the right choice is to install Genuine Subaru brake parts. The braking system is just too important to take a chance on parts with unknown quality. <